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## PROTECTION FOR INDIAN STEEL

# PROTECTION FOR INDIAN STEEL

BY

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## PREFACE

My excuse in inflicting this, my first book, on the public is the necessity of seeing that, now that India, for the first time, is about to make a practical use of her fiscal autonomy, she exercises her right without injury to her permanent economic interests. That such an injury is not impossible is suggested by the strength and acerbity of two almost equally extreme schools of opinion in the country. On the one hand is Indian nationalist opinion, by sentiment and tradition strongly wedded to protection, and, like Adam with the forbidden fruit, inclined when it has the opportunity, to take more than is really good for the country. On the other hand are vested interests, chiefly of the British commercial community, who see in any measure of protection a reduction of trade and profits, and therefore condemn it as unsuitable for the country, affecting, in so doing, to have a truly touching regard for the consumer.

While the one set of opinions exaggerates the possible harm, the other seems equally determined to magnify the probable advantages from protection, to the extent even of ignoring the cost to consumers and the country generally. It is necessary, therefore, that a careful study of the whole problem be made, and the verdict given free from any bias except that the economic interest of India as a whole be regarded of primary importance. Thereafter, and so long as they do not conflict with India's interests, due regard is paid to legitimate British interests, particularly those of Great Britain.

As regards the many defects of the book, I can only say that, while fully conscious of them, I have done the best I could to reduce their number. Where readers find

the information scanty on a particular topic,—as for example, regarding the exact amount and detailed allocation of fixed capital expenditure by the Tata Iron and Steel Company,—this is either due to the total absence of any such information, or its being unavailable to any but the members of the Tariff Board. Sometimes, to avoid overloading the text, material facts have been relegated to footnotes, or have been casually referred to therein, and may be verified by those interested enough, through reference to one or other of the blue books and pamphlets indicated in the Bibliography at the end.

I have dispensed with an index, as, considering the very moderate length of the book and the detailed table of contents, its utility seemed doubtful.

For the early publication of this book, my thanks are due to Sir Asutosh Mookerjee, but for whose generous assistance in placing the Calcutta University Press at my disposal, this book would have taken longer in appearing before the public.

E. H. S.

*Delhi, 18th March, 1924.*

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## CHAPTER I

### INTRODUCTORY

Ever since the days of the Swadeshi (literally 'own country') agitation in Bengal in 1906, the desire for the development of Indian industries has been keen with almost every native of India. Even the unfortunate failure of that movement failed entirely to extinguish this desire. It was recognised that the failure of home-made goods to survive foreign competition was due not so much to an inherent defect in the former as to bad commercial organization and policy on the part of the promoters of Swadeshi enterprise, and exceptional advantages enjoyed by foreign competitors.

Of these, Indian opinion has always persisted in regarding the free-trade pre-war tariff of India as perhaps the greatest. The fact that British goods constituted a large majority of India's imports, naturally led to the suspicion that her British connection was responsible for a persistence in a free-trade policy even to the detriment of Indian industries. The history of the Indian tariff since 1892 and of the cotton excise duty<sup>1</sup> lent colour to this suspicion. The fact that in 1917, India had practically to buy the right of raising her cotton duties from  $3\frac{1}{2}$  to  $7\frac{1}{2}$  % by contributing £100 towards the expenses of the war (and that too after great opposition from Lancashire), added weight to it. While the terms of reference of the Indian Industrial Commission, excluding fiscal policy from the field of measures to be considered to stimulate industrial growth, confirmed it into a deep-seated conviction.

<sup>1</sup> *Vide Report of the Indian Fiscal Commission, 1921-22, Chapter II.*

Nevertheless, efforts to gain fiscal autonomy for India were not relaxed. In the winter of 1917-18, prominent Indian politicians convinced Mr. Montagu of the necessity of granting some measure of fiscal autonomy if self-government for India were accepted by British opinion as a fit object of achievement; and the Joint Select Committee on the Government of India Bill in 1919 recommended that, whenever the Government of India and the Legislature were in agreement on fiscal matters, the Secretary of State for India and Parliament should abstain from any interference except in special circumstances.<sup>1</sup> This was followed up in February, 1921, by the following resolution passed in the Indian Council of State:—

“This Council recommends to the Governor-General in Council that His Majesty’s Government be addressed through the Secretary of State with a prayer that the Government of India be granted full fiscal autonomy subject to the provisions of the Government of India Act.”

The answer to this resolution came in the Secretary of State’s despatch of 30th June, 1921, in which the principle recommended by the Joint Select Committee of Parliament was definitely accepted.

Meanwhile, in answer to an enquiry in the Indian Legislative Assembly on March 1st, 1921, the Government of India announced its intention of appointing a Commission to enquire into the best fiscal policy for India. With the acceptance of the principle of fiscal autonomy by the Secretary of State, all hindrance to the utility of such a commission disappeared, and the Indian Fiscal Commission was duly constituted on the 7th October, 1921, “to examine with reference to all the interests concerned, the Tariff policy of the Government of India, including the question of the desirability of adopting the principle of Imperial Preference, and to make recommendations.” The Commission assembled in Bombay on the 10th

<sup>1</sup> Vide Extract on page 3, para 3, of the Indian Fiscal Commission Report



November, 1921. It devoted the cold weather to touring through and examining witnesses at the chief Indian industrial centres, including Bombay, Karachi, Lahore, Delhi, Cawnpore, Calcutta, Rangoon and Madras. Its witnesses included officials in charge of Industries and Agriculture in various provinces, prominent industrialists, representatives of Chambers of Commerce, and professors of economics. After considerable discussion, it produced a report signed by all the members together with a Minute of Dissent on various points signed by a substantial minority. Both documents (erroneously though conveniently styled the Majority and Minority Reports) were published in September, 1922, and established what may rightly be described as an epoch in the economic history of modern India. The Minority Report was really a plea for high protection to be applied extensively if not quite intelligently. Apart from its really able chapters on Imperial Preference and the Cotton Excise,<sup>1</sup> there is not much to recommend it to the scientific reader. On the other hand, apart from certain recommendations regarding Imperial Preference, excise and export duties, the Majority Report laid down an important principle of fiscal policy, likely to be of far-reaching importance in future industrial development in India.

It advocated the adoption by India of a policy of discriminating protection, to be applied after careful investigation into the conditions of individual industries by a competent Tariff Board. For the guidance of such a board it laid down the following unimpeachable canons:—

- (1) That no industry not already established on a commercial scale be granted any protection.
- (2) That an industry claiming protection should have natural advantages.
- (3) That it be found unable to develop at all, or as rapidly as is thought desirable, without protection.

<sup>1</sup> Vide pp. 189-190, Indian Fiscal Commission Report

- (4) That ultimately it should be able to flourish without protection.

After much criticism in the public press and platform, the Report of the Commission came up for discussion in a debate in the Indian Legislative Assembly on February 16th, 1923. The original motion as amended by the Honourable Mr. (now Sir Charles) Innes, the Member for Commerce and Industry, was finally passed unanimously and decided,

- (1) to accept the principle of discriminating protection laid down by the Fiscal Commission, and
- (2) to appoint a Tariff Board of not more than three members, in the first instance for a period of only one year, to investigate the conditions of individual industries.

In view of the doubtful success of Tariff Boards in the United States and Australia; of the opposition of powerful trading interests in India to any measure of protection; of the difficulties, supposed and real, in the way, of a sufficiently exhaustive investigation by the Board; it was considered wise to limit the appointment of the Board to a term of one year, and judge its success in that period before committing the country to the extra expense of adding a new department to its governmental organization.

The Board was to form part of the Government of India Department of Commerce and Industries.<sup>1</sup> As such, its recommendations were to be of a purely advisory nature depending for their sanction on the assent of the Governor-General and the Central Legislature. Its powers of taking evidence too were considerably limited. It could not compel, but only invite evidence from individuals and public bodies concerned. Naturally, those interests seeking protection might be relied on to furnish ample evidence. But experience has shown that even those industrialists claiming

<sup>1</sup> Since the separation of the Industries and Commerce Departments the Tariff Board is included in the latter.

protection have been loth to provide important information for fear of its being published.<sup>1</sup> Besides, those interests more remotely concerned, sometimes through apathy, at others, through scarcely veiled hostility to the principle underlying the establishment of the Tariff Board, have hardly shown any diligence in coming forward to give evidence before the Board.

The constitution of the Board itself was completed in June, 1923. The President, Mr. Rainey, is a member of the Indian Civil Service translated from the position of Chief Secretary to the Government of Bihar and Orissa. Of the other two members both of whom are Indians, Mr. Ginwala was the Chief Whip of the Democratic Party in the recent Indian Legislative Assembly. He is a prominent business man from Burma, and has shown great practical sense and shrewd insight in the numerous debates of the last Assembly. The third member, Mr. Kale, has long been a Professor of Economics at the Deccan College, Poona, and a member of the Council of State since 1921. Thus constituted, the Board can fairly claim to be impartial and sufficiently representative of enlightened Indian opinion, and its labours are deserving of much greater public interest than has been evidenced.

Further, its immediate subject of enquiry is one whose results may have far-reaching effects on many industries in India and the whole course of Indian industrial development. The steel industry in India, young though it be, must form the basis of any great expansion of industrialism in India. Its investigation with a view to ascertaining what, if any, measures of protection be accorded to it, cannot but concern other industries allied or dependent on it. Necessarily,

<sup>1</sup> After some opposition, one of the witnesses before the Tariff Board, Mr Peterson, agreed to give evidence in camera on the costs of production of steel. That evidence, with the exception of some important documents and statements (still kept private) has since been published.

therefore its preservation forms the indispensable preliminary to any measures of protection for other Indian industries.

Whether its preservation and necessary expansion can be effected without external interference; and if not, what kind of external interference and in what degree, is necessary, will form the subject of the following chapters.

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## CHAPTER II

### STEEL CONSUMPTION AND PRODUCTION IN INDIA

Some idea of the scope for steel industries in India is afforded by the subjoined figures of the average annual value of steel and products mainly dependent thereon, which were imported into India during the three years 1920-23.

	Class	Annual Average for years April '20—March '23
		Rs
I	Iron and Steel and Manufactures thereof	23,50,00,000
II	Railway Plant and Rolling Stock	14,70,00,000
III	Cutlery, Hardware, Implements and Instruments (excluding Electrical Instruments and apparatus)	8,90,00,000
IV	Machinery (including Belting for Machinery)	28,00,00,000
	TOTAL	75,10,00,000

These four categories or classes of goods extracted from the official classification of all imports, include practically all articles into the manufacture of which steel enters either predominantly or in some degree. As such, the 75 crores of rupees (equivalent to £50 million) spent annually on them by India, represent the maximum scope available for expansion for protected steel and metallurgical industries in India. As a matter of fact, however, some allowance has to be made in the above figures for the inclusion of items which, like belting (in Class IV) and wooden sleepers (in Class II) have no connection with steel. But even when this is done, in the present stage of Indian industrial development the successful manufacture of a large number of articles in these categories

can hardly be expected, even with the grant of a large measure of protection. Almost all kinds of machinery,<sup>1</sup> the finer kinds of cutlery and the bulk of articles included under Class III,<sup>2</sup> certain parts of locomotives and rolling stock, anchors, cables, special castings and high speed steel, are either not manufactured or incapable of being manufactured on a commercial scale in India to-day. This is due to the lack, partly, of a sufficiently large internal demand for each article to make specialization in a small portion of manufacture profitable for individual firms, but, principally, of a sufficiently large body of skilled labour and directors of manufacturing concerns, necessary for the task of specialization and extension into new fields of manufacture. Another important reason for the absence in India of many branches of the metallurgical industry, is the dependence on foreign sources of raw materials and the delays, uncertainties and expense of such dependence. An expansion of such industries must necessarily be preceded therefore by a development of indigenous sources of raw material for them. Hence, the possibility of developing the economic production of steel of various descriptions must occupy a *predominant, if not the foremost, place in any policy of industrial expansion in India.* The first step must therefore be, an enquiry into the extent of the present production of steel in India, and the possibilities of future expansion. The most reasonable course of future development would naturally be along the lines of manufacture of those articles of iron and steel locally consumed, for which facilities are not lacking at present.

<sup>1</sup> The subdivisions under Class IV (Machinery) include prime movers, typewriters, sewing and knitting machines and parts, boilers, mining and electrical machinery, machinery for paper, rice, flour, sugar, cotton, jute and silk mills and tea factories, hardly any of which articles are manufactured in India, though recently a Company has been established for the manufacture of jute mill machinery. Common machine tools and certain parts and sections are however obtainable from engineering firms in India.

<sup>2</sup> This includes agricultural machinery, clocks and watches, cutlery, gold and silver plate, dairy appliances, domestic and builders' nonmongery, telegraphic and musical instruments, and various implements and machinery capable of being worked only by manual or animal power.

It is not easy to form an accurate estimate of the total Indian consumption of steel of various forms. Still more difficult (it would appear from the evidence before the Tariff Board), is it to obtain complete agreement among business men as to whether facilities for economic manufacture do exist, and in respect of what articles. A roughly approximate idea of the consumption of steel is however obtainable from the figures of imports together with those of indigenous manufacture.

In the financial year 1912-13, while 986,000 tons of iron and steel (including railway materials of iron or steel) was imported, valued at  $14\frac{1}{2}$  crores of rupees,<sup>2</sup> the amount of steel produced in India was only 19,130 tons.<sup>3</sup> These figures varied largely during the war and the short-lived boom and equally acute depression that followed it during the years 1919-1922. By the time we arrive at the year 1922-1923, both prices and quantities had recovered sufficiently from their excessive heights and depths and the figures of imports had gone back to their practically normal size, while those for local production had naturally increased.

The following gives an approximate picture of the quantities and values of iron and steel imported (including railway material), during the post-war period 1919-23 :—

Period	QUANTITY IN TONS			Total value (in lakhs of rupees).
	Iron & Steel.	Railway Material.	Total	
	Rs.	Rs	Rs	Rs
1919-20	445,000	65,000	510,000	1,841 lakhs *
1920-21	737,000	77,000	814,000	3 462 " "
1921-22	633,000	157,000	790,000	2,554 " "
1922-23	771,000	185,000	956,000	2,234 " "

\* Vide p. 67 of Representation to Tariff Board by Tata Iron & Steel Co.

\* Vide p. 7 of Statements and Notes received from Tata Iron & Steel Co.

\* These figures exclude the values of locomotives, tenders, wagons, carriages, in which steel forms an important if not the sole constituent. They however include the value of rails, fishplates and steel sleepers imported as the weight of these has been included under the quantity figure. Unfortunately, no figures are available in the records of imports, giving the tonnage of locomotives and rolling stock imported.

Taking the 1922-23 figures of imports as a basis, and allowing liberally for the omission of steel and iron parts in locomotives and rolling stock, we get a total figure of imports of about 1,000,000 tons. In addition to this, over 116,000<sup>4</sup> tons of steel were produced locally by the Tata Iron and Steel Co., while it is estimated that the amount of pig iron produced, in almost equal shares by the Tata Iron and Steel Co., the Indian Iron and Steel Co., and the Bengal Iron Co., was nearly 300,000 tons. Not all of this however was for internal consumption, the Indian foundry demand being estimated only at some 120,000 tons<sup>6</sup> of pig. The total Indian annual consumption of iron and steel may thus be put at a little over 1½ million tons.<sup>7</sup> Of this quantity, barely 40,000 tons consisted of imports purely of iron and iron manufactures, the bulk of the country's consumption of iron being met by indigenous manufacture, while a large quantity of pig is already being exported to Japan and America. Of articles coming under the ambiguous categories of iron and steel and of steel, practically nine-tenths of the country's consumption had to be imported from abroad. While this, *prima facie*, implies a possibility of expansion in Indian steel manufacture, the growth of this manufacture in ten years from 19,000 tons to 116,000 tons strengthens this belief which is further confirmed by a detailed examination of the kinds of steel products imported and manufactured locally.

Of the various kinds of structural material imported in 1922-23 the most important categories are bar and channel steel (192,000 tons),<sup>8</sup> pillars and girders (6,600 tons)<sup>9</sup> angle and spring steel (26,000 tons)<sup>5</sup> bridge work (9,000 tons)<sup>9</sup> cast and wrought pipes and fittings (57,000 tons).<sup>8</sup> In the same

<sup>4</sup> Vide a report in the Calcutta 'Statesman' of 22nd Sept., 1923, of a publication by Mr C C Batchelder, sometime American Trade Commissioner in Calcutta, more recent inquiries induce me to estimate the Indian foundry demand for pig at some 200,000 tons annually.

<sup>5</sup> This estimate seems more accurate than one of 2 million tons given in oral evidence before the Tariff Board, by the representative of the United Steel Corporation of India.

<sup>6</sup> Vide p. 67 of representation to Tariff Board submitted by the Tata Iron & Steel Co.



period, about 44,000<sup>\*</sup> tons of channels, girders, angles, tees, squares, rounds and flats were produced in India by the Tata Iron and Steel Co. On the other hand, the Tata production of rails and fishplates in 1922-23 reached 71,000<sup>\*</sup> tons, while the imports of similar categories were : rails, chairs and fishplates (97,000 tons) ;<sup>\*</sup> rails, chairs and fishplates (excluding those for railways) 16,000 tons ;<sup>\*</sup> sleepers and keys (78,000 tons).<sup>\*</sup>

With a view to eliminating a large portion of those foreign imports, the Tata Company have extended their works and intend to increase their output of rails and structural materials to over 330,000 tons<sup>10</sup> in 1925-26.

In addition to the above, there was a fairly large import of steel plates and sheets, including galvanized sheets (122,000 tons),<sup>\*</sup> tinned plates (44,000 tons),<sup>\*</sup> sheets and plates not galvanized or tinned (97,000 tons).<sup>\*</sup> Against this, the Tata Company turned out less than 2,000<sup>\*</sup> tons of plates in 1922-23. New works have been installed however, the output of which is expected to reach 84,000<sup>10</sup> tons in 1925-26. A large portion of this will, it is hoped, be utilized by the subsidiary Tinplate Company of India, formed by the Tata Company in conjunction with the Burma Oil Company of India for the purpose of producing a maximum of about 30,000 tons of tinplates per annum for manufacturing containers for petroleum or kerosene.

Thus it will be seen that, whereas there is undoubtedly large scope for the expansion of steel manufacture in India, steps have been and are being taken to direct this expansion along the proper lines. The possibility that the extensions of works planned by the Tata Co. at the conclusion of the war might prove superfluous and lead to overproduction in some articles, is therefore illusory. This happy result is due greatly to the fact that hitherto steel manufacture on anything like a large scale has been under

\* Vide pp 57 of " Statements and Notes, etc "

<sup>10</sup> Vide p 36 of " Statements and Notes, etc "

the direction of a single organization like Tata's. Overlapping of works, production beyond the country's consuming power, and consequent intensive competition and price-cutting which have characterized the development of the steel industry in Great Britain, America and Germany are, fortunately, still unknown in India.

That they may occur, however, in future is not to be ignored. For, in addition to the Tata Iron and Steel Co., two other companies, the Bengal Iron and the Indian Iron and Steel (not to speak of the State Ironworks in Mysore) are already manufacturing large quantities of pig, and have only refrained from steel manufacture hitherto on account of its unprofitability. Should protection be granted, it was stated in evidence that the Indian Iron and Steel Co. would carry out their original idea of steel manufacture. In addition, a fourth company (at present not much beyond the stage of registration and investigation of prospects)—the United Steel Corporation of India—is likely to embark on the iron and steel industry and lay down a plant intended to rival Tata's in productive capacity.

In view of India's comparatively limited consumption and in view of these possible developments from a policy of substantial protection, great care will have to be taken to see that there is no waste of capital resources of the country, in an indiscriminate multiplication of companies for steel manufacture and a careless organization of the details of such manufacture. Some control must be exercised through the Tariff Board, if protection is given, to see that those companies benefiting thereby, produce the requisite quantities of goods required by the country, and do not merely overproduce in certain branches of the industry already established in the country.

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## CHAPTER III.

### HISTORY OF TATA IRON AND STEEL CO. LTD.

For a proper appreciation of the position now occupied by the Tata Iron and Steel Company in the organization of the Indian Steel Industry, one must go back to the origins of steel manufacture by modern processes in India. About the beginning of the twentieth century, tentative attempts had been made in India to manufacture steel on a large scale by the Government of India and by some British firms in India (see the supplementary statement submitted by the Tata Co., to the Tariff Board, and published in the Calcutta "Statesman" 13th December, 1923). The Bengal Iron and Steel Co. (as it was formerly called), now the Bengal Iron Co., was one of these firms. It was found however that the costs of production at that time did not permit of manufacture being successfully carried out against the imports from Great Britain and Germany. This is not surprising when one recollects the conditions prevailing at the time. The price of pig and steel in Europe had not yet begun to respond to that general upward movement in world prices which may be said to have culminated in 1920. Besides, the intense competition between Germany and Great Britain resulted in importers in India getting their steel at prices well within Rs. 100 per ton landed cost. While foreign prices of steel were much lower, however, internal conditions in India were much more unfavourable for steel manufacture.

Railway communication between the coalfields and ore deposits was very inadequate (in some cases totally absent) while freights were higher on coal and ore than is now obtainable by special concessions by large factories. This

was in great measure due to the restrictions as to minimum and maximum railway rates laid down by the Government of India and the Secretary of State.

Again, the known supply of coking coal in India, scanty even now, was then still scantier. The total output of the country was barely sufficient for its existing railways and factories, and a large import of coal from England figured in the annual trade reports. It was not until the coal "boom" in India in 1905-7, that Indian output and methods of extraction developed in such a manner as to lead to ample supplies enabling the profitable export of coal at moderate rates to markets in Ceylon, Singapore and the Spice Islands. This improvement in output and methods continued without interruption, in spite of the restrictions on price during the war period. After the war however, ensued a long interregnum from the end of 1919 till the middle of 1922 when frequent railway and mining strikes, shortage of available railway wagons, and high wages led to decreased output and an abnormal rise in the price of coal. This was accentuated by a fictitious increase in the demand for coal by a crop of 'mushroom' industries sprung up in the boom of 1919-20 but now languishing or dead. Since then coal supply and prices have again reverted to more normal proportions, though the effect of the recent high prices must inevitably be felt by those who entered into long-term contracts in 1920-22.

Thirdly, the conditions of Indian labour twenty years ago were still more unsuitable than to-day. While large numbers of ignorant and idle labour were available in the villages, the problem of collecting and housing them under factory conditions at a particular place was just beginning to be tackled by the great jute and tea industries of the country. Knowledge of mass production was very meagre, while the class of indigenous skilled operatives and foremen was entirely absent. It was not surprising therefore that the

necessity of importing skilled European labour for supervision and instruction, of employing large masses of men whose ability for long must have been insignificant, of overcoming the 'back to the village' habit<sup>1</sup> among the labourers, of in short creating and maintaining an efficient body of labour, should have made the labour cost of steel manufacture in India almost prohibitive. To overcome these initial difficulties, especially at a time when capital in India was proverbially 'shy' of industrial ventures, required patience and courage, and skill of a very high order indeed. It was because the late Mr. Jamsetjee Tata possessed these qualities in an unusual degree, that he succeeded in a venture where others had failed before him.

At a time when the 'Swadeshi' movement in India was at its height Mr. Tata felt convinced of the desirability of establishing steel manufacture in India. Previous to this, he had spent much energy and money in exploring carefully the possibilities of establishing the manufacture of steel on the most modern lines. He had realized that if he were to be successful, the foundations had to be laid well and truly and no expense spared for this purpose.

Consequently, careful surveys were made of the ore deposits of Singhbhum and Mayurbhanj (native states in the province of Behar and Orissa), transport problems were carefully studied, and the advice of eminent consulting engineers taken at great expense regarding the cost and erection of plants and the best methods of steel manufacture. After these preliminary investigations had indicated the possibility of the successful manufacture of steel, the difficulty of obtaining the requisite capital from indigenous sources almost killed Mr. Tata's scheme. Indian capital was proverbially

<sup>1</sup> Indian factory labour is to a large extent even to day 'seasonal'. There is a strong tendency for labourers during the harvest and sowing seasons to return from factories and industrial towns to their native villages, coming back again during the slack agricultural season.

shy, particularly in supporting Indian-managed ventures, while London, the world's financial centre was likewise chary in supporting a hazardous venture under the new experiment of Indian management. It was only Mr. Tata's indomitable energy and optimism that finally succeeded in raising a capital of Rs. 75 lakhs in Preference and Rs. 150 lakhs in Ordinary shares. There was also a small issue of Rs.  $6\frac{1}{4}$  lakhs in deferred shares given to holders of ordinary shares on certain terms. The capital once provided, the progress of the scheme was developed on sound lines without loss of time. Experts skilled in the various branches of steel manufacture were engaged on long term contracts to work the plant, the necessary machinery ordered, mining leases of ore, manganese, dolomite and various raw materials effected, and the organization of a labour force undertaken.

The allotment of shares and payment of about  $\frac{1}{5}$ th of the total original capital was made by the 26th October, 1907. Between then and the 1st May 1911 when the last instalment of original share capital was fully paid, the work of construction and organization proceeded apace. It was decided in the first instance, to concentrate on the manufacture of pig iron, the possibilities of which had already been demonstrated by the Bengal Iron and Steel Company whose output of pig was being readily absorbed in the local market. This did not mean the total neglect of steel, but relatively small quantities of steel were manufactured in an experimental way. The tests both of the quality of pig and steel proved highly satisfactory with the result that in the first complete year of *working*<sup>2</sup> of the full plant, over 128,000 tons of pig were produced of which more than 19,000 tons were converted into steel rails and fishplates and structural materials of various descriptions. This however was not achieved without much experimentation and great cost. For "the construction period

itself took between 4 and 5 years, and when the operation began the utmost difficulty was experienced in manufacturing iron and steel of good quality. Even when the necessary standard was attained, the cost of production was so high that it was impossible to compete with foreign imports." <sup>3</sup>

The result of these difficulties is indicated in the Profit & Loss statements of the company in the pre-war period 1912-1914. In the first year of working 1912-13 the net profit amounted to about  $8\frac{1}{2}$  lakhs of rupees from which, allowing for depreciation and a certain amount of preliminary expenses, only Rs. 3,68,000 was available for division, an amount insufficient to meet the full interest on the preference shares. With improved organization and increasing economies due to larger production and better sales,<sup>4</sup> the profit for 1913-14 increased to nearly  $22\frac{3}{4}$  lakhs of which over  $12\frac{1}{4}$  lakhs was distributed in dividends. This on the then capital (paid up) equivalent to about 230 lakhs showed a return of barely  $5\frac{1}{4}\%$ , an indication that the industry was not yet out of the throes of its birth struggle.

At this juncture, Fortune smiled on the Tata concern. Just when the future of the industry was still in doubt, the advent of the great war with the practical cessation of all foreign imports proved a god-send to the company. All doubts as to the success of steel manufacture seemed to disappear, and the figures of steel production increased progressively during the whole war period and after, until a climax was reached in 1921-22, as shown below.

<sup>3</sup> *Vide* answer to question 46 in Mr. J C K. Peterson's evidence before the Indian Fiscal Commission on behalf of the Tata Co.

<sup>4</sup> Before the non-co-operation movement, and even now to a certain extent (*vide* the complaint in the evidence of the Hukumchand Steel Casting Industry before the Tariff Board), Indian products of Indian management suffered under the prejudice held even by Indian buyers, of being considered *ipso facto* inferior to foreign. Only long experience of particular products succeeds in effacing this prejudice.

*Statement showing amounts of pig iron produced, sold as pig, and used for conversion into steel by Tata Iron & Steel Co. Ltd.\**

Period	Pig Iron (in tons)		Finished steel of various descriptions (in tons)
	Total	Sold as pig	
July 1912—June 1913	125,238	106,795	19,120
" 1913 " 1914	155,383	97,698	48,672
" 1914 " 1915	160,587	83,832	66,765
" 1915 " 1916	157,257	60,200	91,000
" 1916 " 1917	147,497	39,541	98,726
" 1917 " 1918	188,253	34,436	123,800
" 1918 March 1921	158,395	31,312	101,088
April 1919 " 1920	218,615	60,300	122,223
" 1920 " 1921	253,996	93,820	122,356
" 1921 " 1922	270,270	104,042	125,871
" 1922 " 1923	242,083	103,474	116,638

The above figures indicate that with the tremendous war demand for steel, the residue of pig available for sale had to contract even though the plant worked at full capacity. No less than 291,562 tons of steel<sup>6</sup> of various kinds were taken by the Government during the war period at prices which, while yielding a decent profit was far below the market level of the time. This result was not however obtained without some minor extensions in capital and plant which in August 1917 necessitated the issue of further share capital in ordinary and deferred scrip, amounting to another 120 lakhs of rupees.<sup>7</sup> As,

\* *Vide* page 7 of "Statements and Notes" submitted to the Tariff Board by the Tata Iron and Steel Co., Ltd

<sup>6</sup> *Vide* answer to question 45 in Tata's evidence before the Indian Fiscal Commission

<sup>7</sup> The final calls on these were only made in July 1920. At the end of the war in November, 1918½ of the ordinary and ½ of the value of the new deferred shares were paid up (See Tata's representation to Tariff Board, p 81)



however, the first call apart from the application money, was not made until the 15th November, 1918, this new capital did not come in for a share of the dividends until after the nine monthly period from July 1918 to March 1919, after which the financial year was taken to run from the 1st April to 31st March in order to coincide with the fiscal year of the Government of India for simplicity in the assessment and levy of excess profits and income taxes. The sub-joined table gives an idea of the total net profits, annual amounts distributed in dividends, and percentage yield on ordinary and deferred capital, during the war period 1914-19 :

Period	Net Profits <sup>*</sup> earned (1)	Total Divi- dends <sup>*</sup> (2)	Yield on ordinary shares <sup>**</sup>	Yield on Deferred shares <sup>**</sup>
	Rs	Rs.		
July 1914—June 1915	24,83,000	18,01,000	8	25
July 1915—June 1916	68,30,000	39,18,750	15	180½
July 1916—June 1917	1,10,77,000	54,18,750	20	291½
July 1917—June 1918	1,05,70,000	54,18,750	20	291½
July 1918—March 1919	67, 18,000	11,47,500	5½	Nil
Annual average for the above war period	79,32,000	37,25,000	14½	165½

It is sometimes objected that a company that could pay such large dividends during the war is either too well established to need any outside help, or has sacrificed a proper provision

\* It may be mentioned that the difference between the figures in columns (1) & (2) represents the annual amounts set aside for depreciation, reserve, writing off of preliminary expenses, etc., and provision for taxes. Nearly 20 lakhs of rupees were paid in taxes during the period 1914-19 dealt with above.

\*\* These include the annual dividends payable on the 6% first preference shares of the Co (Rs 75,00,000 in all), but not interest on debentures, provision for which is made as part of the company's costs of production before profit is reckoned.

\*\* The statement of returns on ordinary and deferred stock in the following table is based on figures given in the issue of the Calcutta "Capital" of 13th September 1923.

for depreciation and reserves to the desire for declaring abnormal and sensational dividends. So far as the war period dealt with above is concerned, this objection is invalid. For, if not much provision was made for Reserves,<sup>10</sup> nearly 129 lakhs were allocated to depreciation for the whole period from the commencement of operation till March 31st, 1919. Calculating an average debenture capital for the period from July 1912 to March 1919 of 85 lakhs,<sup>11</sup> and assuming that of the total capital of 315 lakhs thus obtained, 250 consisted of fixed capital, the annual provision for depreciation on this assumption works out to nearly 8 per cent. per annum on the whole of such capital. This is not a figure which compares unfavourably with the rates of depreciation allowed by Government in the assessment of income tax.<sup>12</sup> Further, when we remember that the company took every care not to allow its plant to fall into disrepair throughout the strenuous war period; and that it was the common opinion throughout the world that very large quantities of steel and steel products would be required for some time after the war to repair the havoc caused by it; the directors' policy up till March 1919 in not making larger allocations to reserve can hardly be blamed.

This judgment, however, can hardly be pronounced on their post-war policy. For, it is their post-war policy together with a number of unforeseen factors, which has reduced the

<sup>10</sup> From the beginning of operation till March 31st 1919, not more than 15½ lakhs was put to Reserve (vide page 84 of "Representation to Tariff Board by the Tata Co.")

<sup>11</sup> Vide page 82 of Representation to Tariff Board by the Tata Co. For the whole period July 1912—March 1919, the average debentures of the company is obtained by the following —

$$\left\{ 50 + \frac{10 \times 6\frac{1}{2} + 16 \times 3 + 23 \times 2}{6\frac{1}{2}} \frac{\frac{1}{2} + 25 \times 1}{\frac{1}{2}} \frac{\frac{1}{2} + 25 \times \frac{1}{2}}{\frac{1}{2}} \right\}$$

This works out to  $50 + \frac{42\frac{1}{2}}{2\frac{1}{2}} = 50 + 34\frac{1}{2}$  lakhs or not more than 85 lakhs

<sup>12</sup> The Bombay Income Tax Office allows the following rates of depreciation on various classes of capital—Colliery Machinery and Plant 10%, Works Machinery and Plant and Electric Installations 7½%; Town Sanitary works and buildings in works and Collieries 5%; Ore Mines and quarrying Machinery 5%, Town Buildings 2½%

company from a profitable to a losing concern as disclosed by the following table of profits:—

Year	Net profit <sup>13</sup>	Depreciation	Dividends		
			Total.	% on ordinary	% on deferred
	(1)	(2)	(3)		
1919-20	Rs 1,15,31,000	61,45,000	47,65,625	16	202½
1920-21	1,16,95,000	64,52,000	53,05,208	16	202
1921-22	88,38,000	41,00,000	44,95,995	4	Nil
1922-23 <sup>14</sup>	1,22,000	Unknown	Unknown	Nil	Nil

These figures, specially those relating to amount and percentages of dividend, are not quite intelligible unless it be known that during the whole of the period under discussion there was a continual expansion in the capital issues of the company which increased the total paid up capital (preference, ordinary and deferred plus debentures, 176 lakhs) from approximately 526 lakhs in March 1919 to over 1,376 lakhs in March 1923.<sup>15</sup> (The latter sum includes 325 lakhs of debentures but not 115 lakhs of loans secured by debentures. The reason for this inclusion of debentures as capital is the claim of the company that their fixed capital alone exceeds the total value of all share capital plus debentures and loans secured by debentures).<sup>16</sup> Excluding debentures, the actual share capital

<sup>13</sup> The discrepancy between the figures in column (1) and the sum of (2) and (3) is explained by provision for taxes and reserves. In the period 1919-22 however a paltry 1½ lakhs only was put to reserve, a most incautious policy considering the company's claim to rank 117 lakhs of depreciation as fresh fixed capital entitled to earn a dividend. (Vide p. 62 of Oral Evidence before Tariff Board by representatives of Tata Iron and Steel Co.)

<sup>14</sup> The figures for this year are only provisional and taken from paragraph 2 of the letter dated 27th/28th July 1923 from the Tata Iron and Steel Co., to the Tariff Board. Unfortunately I have been unable to secure a copy of the balance sheet for 1922-23 from the Tata Co. Writing from memory of a newspaper report, the net profits of the company for the period were in the vicinity of some 20 lakhs which was insufficient to pay the dividend on all preference shares, not to speak of anything on ordinary or deferred.

<sup>15</sup> Vide pp. 9-11 of "Statements and Notes" submitted to the Tariff Board by the Tata Iron and Steel Co. This does not include the heavy premium at which the second ordinary and deferred shares were issued.

<sup>16</sup> Vide p. 32 of Tata's Oral Evidence before the Tariff Board line 6 and after.

of the company since March 1919, has just trebled. The main reason given for this extraordinary increase in capital is the policy of expansion decided on by the directors, and described as the 'greater extensions' to distinguish it from the minor extensions made to the plant during the war in order to increase production.

The object of this 'greater extensions' policy is to increase output from a maximum of about 270,000 tons of pig from which nearly 126,000 tons of finished steel of various descriptions was obtained in 1921-22 to almost 700,000 tons of pig, capable, after supplying the company's demand for pig to its local and Japanese customers, of yielding a total of about 4,20,000 tons of steel of various kinds.<sup>17</sup> In case of need, the complete new and old plant would be capable of turning out a maximum of over 600,000 tons of steel. Some coke ovens, blast furnaces, a steel furnace and converters (used for the Duplex process) and a new plate mill were already in operation in August 1923;<sup>18</sup> but it is not until 1925 that the new plant is expected to be in full operation. Until then, obviously the full economies in production from the whole plant can hardly be expected.

It is estimated that the total capital expenditure on the 'greater extensions' will amount to 10·57 crores of rupees, but a detailed statement of this was not available as at the time of evidence the plant had not yet been completely installed. Instead, we have a statement showing the cost of some of the plant, its installation and correlated expenditure on rolling stock, quarries, etc., to be nearly 184 lakhs as on the 31st March 1922.<sup>19</sup> In addition, more than 175 lakhs had been expended by that date on the purchase and equipment of the collieries owned by the Company.<sup>20</sup> The creation of a large steel

<sup>17</sup> Vide p 14 (at the bottom) and p 36 of Statements and Notes by Tata Iron and Steel Co submitted to the Tariff Board

<sup>18</sup> Vide pp. 32-33 *idems*

<sup>19</sup> Vide p 37 *idem*

<sup>20</sup> Vide p. 43 *idem*.

works employing thousands of workmen, involves however, supplementary expenditure of a large amount in the planning, lay-out and construction of housing accommodation ; and the provision of adequate water, lighting and sanitary facilities. In a country like India, where these amenities of civilized life are scarce ; and in the case particularly of the busy town of Jamshedpur which grew from a comparatively insignificant village ; such expenditure was absolutely necessary for the company in order to retain its labour force. On March 31st 1922 this expenditure on capital account amounted to nearly 113 lakhs,<sup>21</sup> divided under the following headings :—

Town Buildings	83½ lakhs approx.
„ Sanitary works	.. 24½ „ „
Electric Installation for lights and fans.	4½ „ „
Ice and Aerated Water Factory.	... ½ „ „

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Total 113 lakhs

The existing accommodation of 4,500 houses is however inadequate for the staff of about 15,000 men employed,<sup>22</sup> and it was estimated that a further sum of 70 lakhs would be necessary to double the existing accommodation and provide everyone with sufficient room. Besides, a sum of 10 or 11 lakhs more was required for improving the drainage system and water supply.

While much still remains to be done for the improvement of the conditions of labour, the company's achievements in this direction are not inconsiderable. Its houses are given to workmen practically rent-free, a charge of only 5% on the capital cost being made to each tenant to cover interest. In

<sup>21</sup> Vide p 41 of " Statements and Notes "

<sup>22</sup> Vide pp 91-94 of Oral Evidence of Tata representatives for particulars of the housing, education and welfare expenditure of the company.

addition, the company provides recreation rooms where labourers can spend their leisure profitably and with interest to themselves. During the period of abnormal high prices in 1920 and 1921, shops were opened for the supply of grain and cloth and other necessities at cost price, thus saving the abnormal profits made at the time by middlemen. Since then the growth of co-operative societies has made the continuance of this work unnecessary. There are, further, 14 elementary schools attended by 1,200 labourers' children, and though larger numbers could easily be dealt with in these institutions, their advantages are so insufficiently appreciated by the workmen that house to house visits to cottages have to be made by teachers to induce children to attend. Nor is this all. Technical training is provided for workers in evening classes. But while the total number on the rolls is 270, the average attendance is about 35 per cent. due to unavoidable absence by a large number who are employed on night shifts.

Perhaps more disappointing for the present are the results achieved by the Technical Institute established by the company in 1921 to train Indians with the requisite physique and education, for appointments of foremen and other technical experts now held by imported foreign labour. Of 2,638 applicants for admission to the Institute up to November, 1922, only 172 were found fit physically and otherwise, and of these only 53 were actually admitted to the training course at the institute. Unfortunately, even of this small number, six of the first batch of twenty-four left or were discharged, while only twenty remained of the second batch of twenty-nine. The principal reason for these poor results, seems to be the strenuousness of the work required of the students, and the relative unattractiveness of the remuneration offered after the completion of the training course.<sup>23</sup> Until such time, therefore, as the high

<sup>23</sup> Vide pp 26 27 of Statements and Notes, and Mr Saunders' (the Director of the Institute) Evidence before the Board (pp 44-47 of Oral Evidence by Representatives of the Indian Iron & Steel Co before the Tariff Board).

standard of effort in vogue in America and Great Britain becomes acceptable to the middle classes in India, and the Indian intelligentsia learn to prefer the comparatively assured though smaller remuneration in industry, to the precarious chances of success in overcrowded non-manual occupations like law, education and Government service, the entire replacement of foreign by cheaper <sup>24</sup> indigenous labour in the upper ranks of the industry can hardly be a matter of early development. Till then the labour costs of the company must remain higher than is the case in other countries, and the company will be handicapped in international competition.

The extent of this handicap is the greater inasmuch as the subordinate ranks of labour have not proved themselves to be as relatively cheap as was at one time expected. The following table gives an idea of the wages and output per man since 1916-17 taken as typical of the war period, and each year in the post-war period, for each of the processes operated by the company. For comparative purposes, it would be better to take as typical of present conditions the year 1921-22 as the figures for 1922-23 are vitiated by the dislocation caused by the great strike of September-October, 1922.

<sup>24</sup> Mr R D Tata, a director of the company, declared that it was their policy to pay an Indian employee  $\frac{2}{3}$  of the wages or salary that would be paid to a European or American for exactly similar work done

*Wages (in rupees) and output (in tons) per head of uncovenanted labour employed.<sup>2</sup>*

Process.	Items.	1916 17	1919 20	1920 21	1921-22	1922 23
Coke Ovens	Wages (in Rs )	201	236	244	255	238
	Output (in tons)	243	173	151	153	134
Blast Furnace	Wages	207	163	233	272	247
	Output	184	121	114	123	113
Open Hearth	Wages	250	205	242	240	209
	Output	134	82	74	77	80
Blooming Mill	Wages	519	394	566	596	532
	Output	523	450	480	473	450
Rolling Mill	Wages	305	378	428	402	343
	Output	76	68	63	64	61
Bar Mill	Wages	289	288	362	357	340
	Output	391	29	31	29	34

In almost every process, there is the same story to be read, —a tale of increasing wages and diminishing output per man. In every process without exception, there has been an increase in labour costs per ton, smaller in some processes larger in others. The reasons for this development are various. In the first place, looking at the figures of output, a portion of the great deterioration in some processes like the Coke Ovens, Blast and Open Hearth furnaces, is attributed to the great wear and tear incurred by some of the furnaces during the war, and a deterioration in the quality of coal. Besides, it is admitted that of recent years the company has been employing a

<sup>2</sup> Vide pp. 14 16 of "Statements and Notes, etc." from which this table is compiled



larger number of men than were strictly necessary for the plant installed in order to train them and have a labour force ready for the fully expanded works. It may be, too, that the directors were induced to adopt this policy as a safeguard against the dislocations caused by strikes. For, since the close of the war, there have been two great strikes and a number of minor interruptions and threats of such. The first in February, 1920 was very widespread and lasted over two months. As a result there was an all-round increase in wages which had become insufficient to meet the increase in the cost of living. The effect of this is seen in the fact that except in the coke ovens, the wages per man underwent by far the largest increase between 1919-20 and 1920-21. Except in the blooming mill and bar mill, it is to be feared that output in this period showed no sign of increasing, thus lending colour to the opinion that industrial labour in India is not subject to the same stimulus to increased production that is afforded by adequate wages in the West. Indeed, there is good reason for the conviction, fortified by experience with colliery labour in 1920-22 that in India, when once a labourer has earned a sum sufficient for his meagre wants, he prefers leisure to earning more pay by greater effort. The only remedy to such a state of mind is the creation of new wants in him, by education and facilities for healthy recreation.

Great hopes are placed therefore on the steps taken by the company for the housing and general welfare of their labourers. But the effects of these can only make themselves felt slowly. More swift economies are likely to ensue from the installation of the new plant, which will reduce the number of men attached to each furnace now, and hence the labour cost per furnace output.

These improvements, will not, however, have eliminated all the causes of the company's post-war troubles. The average cost of coal went up from Rs. 3-2 a ton in 1912-13 to

Rs. 8-15 in 1922-23.<sup>26</sup> In 1918-19 it was only Rs. 5 per ton while by 1920-21 when the coal trade had already begun to experience substantial increases in price it was only Rs. 7 per ton. For a portion of the increase in later years there is a peculiar reason. Much of the Indian coal production *i.e.* from 6 to 7 million tons, is annually taken by the railways. The terms of purchase for railway contracts are usually arranged, for both state and company managed railways, on the advice of the Mining Engineer to the Railway Board. And it is not unusual for large private consumers of coal to take the Railway Board rates as a basis for their contracts. This is what was done by the Tata Co., in 1920 and 1921 when they entered into some long-term contracts for large quantities of coal. The result is, that although coal prices have come down considerably since then, the company's costs are unduly inflated<sup>27</sup> and unlikely to be appreciably reduced until 1925 at any rate, from which date it will be necessary for the Railway Board to purchase coal on new contracts.

In addition to expensive coal, the increases in Railway rates in India since 1919 have affected the costs of the company though to a smaller extent than other concerns, because of the existence of a somewhat advantageous freight agreement between them and the Bengal Nagpur Railway Co.<sup>28</sup>

While these factors on the one hand raised the costs of the company, other forces were in operation to reduce its

<sup>26</sup> Vide p 51 of "Oral Evidence etc"

<sup>27</sup> In an action brought in 1923 by the Government of India against the late Mr R W. Church sometime Mining Engineer to the Railway Board, it transpired that the latter, in return for personal consideration, had been induced by Messrs Jardine & Pattinson to raise the rates for coal all round by about Rs 2 per ton. These facts were alleged to have occurred, in a letter written from England in January, 1923 by Church himself to Mr Whitworth, the present Mining Engineer, stating that Jardine & Pattinson had come to him about the end of 1920 with this proposal, but that they had not paid him more than £ 20,000 of the stipulated £100,000. He hoped that Whitworth would help him to recover the remainder of the promised bribe. Instead, Mr Whitworth brought the matter to the Government's notice, and action was taken, but Church died in Calcutta before the judgment on his case was pronounced.

<sup>28</sup> Vide p 49 of Statements & Notes, etc

net receipts, thus converting the prosperous Profit and Loss Sheet of 1919-20 into the depressing one of 1922-23. The chief of these factors was, of course, the world wide depression in trade which affected steel prices as much as and perhaps more than any other. For example, the price of English beams and joists which in June 1921, was about Rs. 17 to 18 per cwt. in the Calcutta market, had fallen by September 1923 to Rs. 9 to 10 per cwt.<sup>29</sup> Similar reductions occurred in other kinds of steel. While the advent since 1921 of steel from the continent at much lower rates even than the reduced English prices, added a still more serious element to the competition that the company had to bear. Nor was this the sum of the company's misfortunes. Contracts for steel rails entered into by them, on the basis of the continuance of their old scale of production costs, have resulted in depriving them of the benefit of higher market prices, and, in some cases, in supplying rails actually at a loss.<sup>30</sup>

It was this tale of continuous misfortune that led the company to approach the Government for protection in 1922. They based their claim on a number of grounds including the service rendered during the war by the supply of cheap steel to the government. Other reasons were the plea that steel is a 'basic' industry and must be fostered in India; that low prices and keen foreign competition fostered by depreciated exchanges were likely to continue for a long time in the future; and that the industry possessed natural advantages, which, when developed would enable it to compete unassisted in the international market. Whether these claims are sound and prove the necessity for protection will be investigated in the next chapter.

<sup>29</sup> These are retail prices for comparatively small lots of a few tons each, and include duty, clearing charges and middleman's profit.

<sup>30</sup> Vide pp 45-46 of Statements & Notes and pp 71-75 of Representation to the Tariff Board submitted by Tata Iron & Steel Co

## CHAPTER IV

### IS PROTECTION NECESSARY ?

In considering the question of the necessity of protection for steel the principles laid down by the Fiscal Commission form a useful guide. Of course, it was to be expected that different interests would find in the same set of principles the source of entirely different conclusions. Thus while the Tata Company claim protection among other grounds, because their industry is one of military value, is the basis of the future industrial expansion of India and possesses natural advantages; the Bengal Chamber of Commerce regards the Indian Steel Industry as having failed to fulfil the canons of discriminating protection, and therefore, not entitled to assistance. The following discussion will show how far these opposing views are correct.

The existence of the Tata Company for the last twelve years leaves no doubt about the practicability of manufacturing steel on a commercial scale. In fact, one of the reasons for refusing protection advanced by the Bengal Chamber of Commerce was the opinion that should the present company be wound up, other people might be forthcoming to take up the steel industry. Whether this opinion is justified or not, it, together with the experience of the Tata Company shows that, at any rate, protection cannot be denied on the ground of the industry not yet being established on a commercial scale. As however opinions are very keenly divided as to whether the steel industry does possess sufficient natural advantages, a careful enquiry into the exact character and extent of these will be attempted here.

It has already been seen that there is an ample home market for steel to induce expansion. Even when allowance is made for long distances separating centres of consumption in India, the extent of the market within favourable approach from Tatanagar is enormous.<sup>1</sup> That the advantages of quick and regular supply, of easy terms of purchase and ready accessibility offered by local manufacture will ultimately be sufficiently appreciated by consumers of steel in India, can hardly be doubted. And, provided quality and price compete favourably with goods of foreign manufacture, there need be little doubt regarding the adequacy of demand for indigenous steel. As regards quality, the products of the Tata Company bear a high reputation, and when once they are able to offer favourable prices, orders are bound to come to them in spite of the predilection shown by railways and firms with English Boards of Directors, to place orders in England. In deference to a very strong public opinion, the Government itself attempts to place as large orders as possible for its requirements in India, and to this end has decided to extend the organization and operations of its Stores Purchase Department in defiance of the retrenchment suggested therein by the Inchcape Committee. This is bound to have due effect in course of time on the action of private firms, which, in India, provided their interests do not actually suffer thereby, are particularly prone to Government influence and example.

Whether the Tata Company can offer a competitive price against foreign products, depends largely on its transport facilities both for production and sale. We have already noted the handicap on its sales imposed by the relatively larger rates for freight on finished products to distant markets like

<sup>1</sup> Even if we exclude the local demands of [Karachi, Bombay, Rangoon and Ceylon, freights to which from English and German ports are less than from Tatanagar (see p 68 of Tata's "Representation to the Tariff Board," etc) the extent of territory within favourable reach of Tatanagar is very large. Much room for widening this exists, if the railways decide to grant more favourable rates from Tatanagar to distant centres of consumption.

Karachi, Bombay, Ceylon and Rangoon. Some of these markets like Karachi would remain unapproachable, however much the railways might be willing to make reasonable reductions in rates. But, slight reductions in the rate per ton mile to Bombay and for export from Calcutta might open up large local markets for Indian steel, provided such action is supplemented by substantial reductions in steamship freights from Calcutta to Rangoon and Colombo. Indeed, if the figures supplied by the Tata Co. are reliable, the rates of Rs. 20 and 15 respectively to Rangoon and Colombo from Calcutta, (against Rs. 16-14 from English ports) are hardly accountable except by the fact that these routes, being monopolised by the P. & O. and British India Combine, the supplying companies charge whatever freights they deem best. If competition between shipping companies were allowed on these routes, there is no doubt that much lower rates, still yielding a profit could be established.

But if ultimately transport rates on the finished product may prove a handicap to the company, in that they are higher than those for foreign products to India, the company enjoys some appreciable advantages in this respect in regard to its raw materials. Most of its ore is about 90 miles from its works only, while the furthest reserves of this is not beyond 200 miles. There is railway connection with all but 20% of these deposits and for these only short sidings have to be constructed. Similarly, its coal deposits all lie within a radius of 200 miles, the bulk of them being not further than 120 miles. Nor are its dolomite and limestone quarries situated further than 120 and about 300 miles away, though the dolomite and limestone purchased from other sources have to travel nearly 500 miles. With the exception of this minor drawback in respect of limestone, the distances from the works of the principal raw materials compare favourably if not with English conditions, certainly with American and also with some continental works. Apart from distance however, the normal

rates of freight on Indian railways for these raw materials do not compare favourably with Continental or American conditions. In the latter country, particularly where important railway lines are frequently owned by the steel manufacturers the problem of transport rates is particularly easy of adjustment. To a certain extent, however, the Tata Co., have overcome its difficulties by a rate agreement with the Bengal Nagpur Railway which handles almost all its raw materials. This agreement saves the company substantial amounts annually in rebates which have the effect of reducing the actual freight paid per ton mile far below the normal level.<sup>2</sup> The apparently unintelligibly large saving to the company in the year 1922-23 is explained by the fact that the agreement saved the company from the general enhancement of Railway rates and fares sanctioned by the Government from April 1st, 1922. In return, however, for the advantages conferred by this agreement, the B. N. R. are supplied annually for five years from April 1st, 1920, about 15,000 tons of rails with the necessary fishplates at Rs. 110 and Rs. 140 respectively per ton, rates far below the market rates hitherto ruling. In fact, it is estimated that under this agreement the B. N. R. saved during the first two years

<sup>2</sup> The following statement of the tonnage handled, normal freight due, and freight payable under the agreement with the B. N. R. Co., extracted from p 59 of "Statement & Notes, etc.," shows the advantages derived from it by the company

Period.	Tonnage	Normal Freight	Freight paid	Saving to Company.
	Rs.	Rs.	Rs.	Rs.
April 1918 - March 1919	1,371,276	33,88,284-14	16,06,998 3	17,81,286-11
" 1919 " 1920	1,640,261	42,06,105	20,94,018 12	21,12,086-4
" 1920 " 1921	1,464,367	36,60,030 15	16,18,013	20,48,017-15
" 1921 " 1922	1,624,230	42,43,790	17,27,461	25,18,329
" 1922 " 1923	1,749,452	62,73,560 5	20,17,520 6	42,56,069-15

of its currency over 27 lakhs and 9 lakhs respectively.<sup>3</sup> In spite of this, however, the Tata Company are well content to preserve intimate relations with the railway as is evidenced by their attempt during the depression to secure favourable revisions of existing contracts from all other railways except the B. N. R. whose rates for rails and fishplates are lower than those paid by any other. On the other hand, the B. N. Railway seem also to be satisfied with their freight agreement, from their representative's statement in evidence before the Tariff Board. It was stated that the rebates granted to the Tata Co., were not exceptional and might be granted to any concern who could guarantee the minimum quantities and regular despatches guaranteed by the Tata Co. As these quantities are likely to increase still further in future with the installation of the greater extensions, it is reasonable to expect the railway to continue its offer of low net rates to the company. So far as cheap transport is concerned, the company may therefore be said to possess a natural advantage in production.

Nor is it lacking in the requisite raw materials of manufacture. The company owns ore deposits in the districts of Singbhum, Mayurbhanj and Keonjhar estimated at 472 million tons much of them containing as much as 60 per cent. iron, while their estimated annual consumption for the completed plant in 1923 does not exceed  $1\frac{1}{4}$  million tons. Again, the company possesses ample reserves of coal for their purpose, although the quality is not as good as in England, yielding as much as 18 per cent. ash. The collieries owned by them are estimated to contain 410 million tons of coking coal, 91 million tons of gas producing and 387 million tons of good second class steam coal. While their annual consumption of these coals are put at 1,300,000 tons, 230,000 tons and 300,000 tons respectively, the company are further secured against the possibility of any coal shortage by contracts with coal firms for an

<sup>3</sup> Vide p 75 of Representation submitted to the Indian Tariff Board by the Tata Co



annual supply ranging from 676,000 tons to about 888,000 tons of all descriptions <sup>4</sup> for the next 20 to 25 years.

Again, while its annual consumption of dolomite does not exceed half a million tons, the company owns quarries estimated to contain 151 million tons and has contracts for further supply of from 65,000 to 85,000 tons annually. It has also a contract for the supply of over 100,000 tons of limestone for the next 25 years, and owns a limestone quarry estimated to yield 4 million tons at Bilaspur about 300 miles from the works.

In addition to these main raw materials, its requirements of magnesite, chromite, fire-bricks and silica, are amply provided by either its own properties or by long-term contracts with other firms.<sup>5</sup> But while the quantity and situation of the raw materials available for steel manufacture are satisfactory, the following extracts from the evidence of the General Manager of the Tata Co., suggest that their quality and price do not always compare favourably with other countries.

Comparing certain items of cost of production in America and India during 1915-17 (since when the costs in India are alleged to have increased greatly) Mr. Tutwiler says :—<sup>6</sup> “ ... We have to use 250 lbs. of limestone for a ton of steel against their (America's) practice of 200 lbs. per ton of steel. Our limestone cost us Rs. 6 a ton and theirs cost Rs. 3-6 a ton.... the excess consumption is due to excess acid in the raw stone in this country and then we also have to calcine with a coal of inferior quality at a higher cost. Our limestone also contains a less quantity of CaO than it does in America, so that we have to spend 8 annas above them on this article.....The next item we have is moulds and stools. Our cost per ton of steel is 12 annas and theirs was 5 annas. They get about

<sup>4</sup> *Vide* p 47 of “Statements and Notes, etc”

<sup>5</sup> *Vide* p 49 of “Statements and Notes,” etc, and pp 17 21 of Oral Evidence given before the Tariff Board by representatives of the Company for details of raw materials

<sup>6</sup> *Vide* pp 65 67 of “Oral Evidence” before the Tariff Board by Tata's representatives

100 heats per mould as against our 65. (The shorter life of the Indian mould is due to the relatively high phosphorus content of Indian iron).<sup>7</sup>.....We used at that time 900 lbs. of coal per ton of steel against their 600. Our coal cost us Rs. 2-8 and theirs Rs. 2-4, a difference of only 4 annas a ton.

And again,

“Materials, repairs and maintenance cost us 11 annas a ton and it cost the States 5 annas a ton—a difference of 6 annas. That was on account of the higher price of material. We have to bring by sea most of the materials and that cost us more.....The same thing applies to tools, lubricants and other miscellaneous supplies—12 annas a ton disadvantage..... Under “refractories” our cost was 14 annas and theirs 10 annas, a difference of 4 annas. It is due to the materials not being up to quality.”

These facts raise a doubt as to whether India really enjoys a natural advantage in raw materials—a doubt which is increased by the following evidence showing still further increases in the expense of raw materials in 1921-22 over 1917.

“In 1921 we used 400 lbs. of limestone at Rs. 6-9 per ton against 250 lbs. at Rs. 6 in 1917 .....in 1917 our coke contained 20 per cent. ash and in 1921, 25 per cent. ash, and we had to use more coke in calcining limestone of poorer quality... Our moulds and stools, quite a big item, cost us Rs. 1-4 in 1921 as against 12 annas in 1917 .. ..Fuel rose from Rs. 2-8 to Rs. 6 due to increased price of coal.... ..Materials, repairs and maintenance increased by five annas. ..Refractories went up from 14 annas to Rs. 3 on account of the higher consumption of dolomite, magnesite and calcining lime with inferior coal. Our dolomite cost us Rs. 5 a ton in 1921 against Rs. 3-8 in 1917. Magnesite cost us Rs. 90 a ton in 1921 against Rs. 75 in 1917.”

<sup>7</sup> The statement in parenthesis is mine, not Mr. Tutwiler's

Since 1921-22 there has been an improvement in some directions. The percentage of ash in the coke has been reduced to 22, and the quantity of dolomite and coke respectively per ton has been brought down from 1,500 lbs. and 3,300 lbs. to 1,000 lbs. and 2,800 lbs.<sup>8</sup> Notwithstanding these improvements it must be admitted that the cost of materials required per ton of finished steel is high relative to other countries, and the statement that India possesses cheap raw materials for steel manufacture *to-day* must be accepted with substantial modifications.

In regard to labour, India possesses still less natural advantages. Her indigenous labour is ignorant, inactive and irregular, and incapable of strenuous exertion for long periods, and while the range of individual salaries of Indian labour may be low, their efficiency earnings relative to other countries is much higher. This is indicated by the fact that Tata's labour cost per ton of steel ingots was Rs. 4.2 in 1917 against Rs. 2 in America, and that their costs are higher in every item where labour enters. Thus speaking of furnace repairs, says Mr. Tutwiler: "It cost us Rs. 4-12 per ton of steel and it cost them, (*i.e.*, America) Rs. 1-8. We are not getting as good practice." Of course, a good deal of the high labour costs is due also to the liberal salaries and privileges of the expert foreign labour brought out to superintend and control. In addition to much higher salaries than similar men get in England or America, they are given a month's leave on full pay for every year of service and have their passages paid to and from the country of origin. Besides, they also enjoy in regard to housing, etc., the advantages provided by the company for its employees. With time the disadvantages due to expensive foreign labour and the comparative inexperience of the Indian workman to conditions of steel manufacture, may be overcome. But even then labour is hardly likely to

<sup>8</sup> Vide p. 68 of 'Oral Evidence' before Tariff Board by representatives of Tata Co.

be free from disadvantage in meeting foreign competition. For, "men will not stick for twelve months as in the case of cold countries," and again (says Mr. Tutwiler), "We attribute this primarily to climate conditions. In other countries a man stands up with his face right up to the furnace all the year round, but here they cannot stand it for more than seven months. For four months it is absolutely impossible for him to do it."

Again, there is little doubt that India has no natural advantage so far as cheap and easily available capital is concerned. For awhile in 1919, it was supposed that the capital amassed by India during the war would result in permanently lowering the rate of interest which industrial enterprises might be required to pay both on working and fixed capital. Unfortunately however, while much of this capital was dissipated in the formation of mushroom companies during the flotation boom of 1919-20 (most of these companies are now defunct or moribund) and some transferred to England during the Exchange fluctuations of 1920; the growth in the demand for capital for financing Government deficits as well as public works like railways, docks, canals and ports, has been so great since then as to extinguish the hope of a lower rate of interest.

The result has been that, whereas before the depression the Tata Co. had to pay a low interest on the comparatively small amount of working capital they borrowed; at present they require much larger sums under this head and have to pay a higher rate. To a certain extent this rate is also due to their depreciated credit since their failure to earn dividends from 1922, but when all allowance is made for any recovery in this in more prosperous times, the average rate of interest (not less than 6 per cent.)<sup>\*</sup> payable will still be higher than

<sup>\*</sup> On page 84 of "Oral Evidence, etc.," Mr. Peterson thinks it would be impossible to get money against preference shares and debentures for less than 9 per cent and 7½ per cent. respectively. The average return on preference and debenture stock in

what banks are willing to charge manufacturers in other countries for similar accommodation.

The above considerations regarding raw material, labour and capital should qualify the general and widespread Indian opinion that the steel industry enjoys natural advantages in production. They do not, however, condemn all claim to protection by the Steel Industry. For while they show undoubtedly that many so-called advantages are at present really disadvantages, there is reason to expect that some of these disadvantages at any rate will become less or even disappear with greater experience in the industry and a revival of normal trade. When it is further remembered that any industrial advance in India postulates the existence of a well-developed and flourishing steel industry with easily available supplies of cheap steel, the establishment of such an industry becomes of considerable importance.

The question how far, and at what speed, this establishment is likely to occur without any external assistance has therefore to be investigated.

A survey of the history of the Tata Co., has shown that except during the war and the short-lived post-war boom when steel prices were even higher in India than the controlled prices during the war, the company has not been able to conduct its steel manufacture on a profitable basis. Even in the short pre-war period, 1912-14, the earnings of the company at no time exceeded an average of  $5\frac{1}{2}$  per cent. on the total ordinary and deferred capital. Any hopes that its confident supporters might have had of its being able to withstand foreign competition in steel, were dispelled by the events of the year 1921-23. With a long established manufacture

well-established jute manufacturing companies at 7 per cent. and 6 per cent. respectively. If and when its credit revives the company should not find it difficult to get large temporary accommodation from the banks at about 1 per cent. over the average Imperial Bank rate. This is in the vicinity of 5 per cent. though it fluctuates normally between 4 per cent. and 9 per cent. during the year. In the half-year ending 31st December, 1923, the average rate was  $4\frac{1}{2}$  per cent.

of steel having access to numerous external and internal economies;<sup>10</sup> with a well-disciplined, intelligent and comparatively cheap labour-force; with a cheap overseas freight; with (in some cases) depreciating exchanges; foreign manufacturers were able to import steel into India at rates which left no margin of profit to the Tata Co. Having regard to the current rates of exchange during the whole period from February, 1922, to March, 1923, the c. i. f. prices for Belgian beams and bars in India did not exceed Rs. 114 and Rs. 110 respectively, and those for British beams and bars, Rs. 145 and Rs. 155 respectively.<sup>11</sup> Frequently, the prices were lower. Till April 1st, 1922, a duty of only  $2\frac{1}{2}$  per cent. was charged on these, while since then the duty was raised to 10 per cent. at which it now stands. Against these prices the Tata Co., put their lowest costs for the period at Rs. 175 and Rs. 195 respectively.<sup>12</sup> In 1921-22 their cost of rails was Rs. 163<sup>13</sup> and that of bars probably Rs. 180. Assuming for argument the correctness of these cost figures, they merely prove that profitable production was impossible during the period of exceptional depression immediately following the post-war boom. They do not indicate that profitable production will be impossible, if and when world steel prices recover

<sup>10</sup> Among external economies enjoyed by foreign firms and hardly available in India, are ready sale for by-products like coal tar, cheap and easily available supplies of stores of all descriptions including machine parts, chemicals, lubricants and tools, and (frequently) alternative rail routes to markets leaving producers unfettered access to markets at cheap rates of transportation. The internal economies are less waste of raw material, better use of time, less fuel consumption and cheaper labour due partly to greater diversity of products and continual research for improved processes.

<sup>11</sup> Vide pp. 64-5 of "Representation to Tariff Board submitted by the Tata Iron & Steel Co." The figures given by me in the text are only rough approximations, erring however on the safe side. I have assumed a charge of 75 francs per ton for freight and insurance for Belgian steel and the following average rates of exchange for the period — £1 = 70 francs = Rs. 15.

<sup>12</sup> Vide pp. 79-80 of "Representation submitted to Tariff Board by the Tata Co."

<sup>13</sup> Vide p. 31 of "Statements and Notes," etc. The 1921-22 figures are better for comparison because production was less affected by strikes or compulsory contraction due to depression.

or again, if and when the expected increase in productive efficiency from the installation of the new plant takes effect. Indeed, if we are to accept a statement of the company itself, it would appear that in July, 1923, world steel prices had recovered sufficiently to make it impossible for anyone to get British rails in India for less than Rs. 188 per ton (including 10% duty and landing charges)<sup>14</sup> a price exceeding their 1922-23 cost of production. Since then commercial reports have not been wanting in distinct indications of a revival in the iron and steel trades (the last report of the kind appeared in the Calcutta 'Statesman' dated 8th January, 1924, cabling the review of British trade made by the Industrial correspondent of the London 'Observer'). Whether this revival is likely to be of long duration or not, it is difficult to prophesy definitely, but, having regard to the possibility of recovery in buying power in large areas of the world like Russia and the Near East, and possibly also Germany and Austria, prices are likely to be maintained at a steady level for some time.<sup>15</sup> Of course there is also the probability of large additions to the supply of steel, with the resuscitation of production in the Ruhr. But this is so uncertain at present, and the recovery in buying power of Germany which is the necessary concomitant of a resuscitated Ruhr, will be so great, that the chances are these increased supplies will merely prevent prices rushing up to the boom levels of 1920-21, but not depress them below present levels.

*Pari passu* with a recovery in world steel prices, is the confident expectation of diminished costs by the Tata Co. Nor is there any reason for doubting these expectations. The efficient new plant, improvement in quality of coal,<sup>16</sup> more

<sup>14</sup> Vide para. 3 on p. 3 in "Representation submitted to Tariff Board by the Tata Co."

<sup>15</sup> Vide in this connection my articles in the Calcutta "Capital" dated 6th and 13th September 1923

<sup>16</sup> Vide pp. 68 and 69 of Oral Evidence by representatives of the Tata Co.

regular railway service,<sup>17</sup> gradually improving labour, and finally an increase in total production ; all these operating in combination are certain to lower the costs of steel per ton from 1925 onwards, and, so far as human foresight can see, there is no factor likely to increase costs in the near future.

We are bound to conclude therefore, that though its shareholders may have suffered loss during the recent years of depression ; the Tata Co., is not likely to go into liquidation or the manufacture of steel in India be discontinued for want of external assistance. But whereas the continued existence of the Tata Steel Company in India may be beyond doubt, it is probable that the development of steel manufacture will be expedited by judicious protection.

It transpired in evidence before the Tariff Board that protection would lead to steel manufacture by at least two other firms in India. The Indian Iron and Steel Company would continue with its original plan of establishing a steel plant in India, while the project of the recently established United Steel Corporation of India—in which Messrs. Camell Laird of Great Britain and Bird & Co. of Calcutta are jointly interested—would come to fruition. This corporation contemplates the establishment within 5 to 8 years of an up-to-date modern steel plant capable of producing between 650,000 to 720,000 tons of pig iron from which as much as 450,000 tons of finished steel of various kinds could be got leaving a surplus of pig iron of from 50,000 to 60,000 tons for sale. This large output would however be attained only gradually. At first it is contemplated to establish a small plant only capable of turning out about 60,000 tons of steel rails and leaving a balance of about 12,000 tons of pig iron. With the success of this a larger plant would be installed achieving the desired production. The whole scheme is estimated to require a capital of Rs. 20 crores, a large part of which would be provided

<sup>17</sup> The B N Railway are doubling their line from Tatanagar to the coal fields and are deposits of the company



by the promoters and the rest would be open to public subscription for Ordinary and Preference Stock. Of this sum about 8 crores is expected to go for the plant and its installation while a large amount would probably be needed for acquiring ore and coal mines and other raw materials essential for production. This corporation expects a ton of steel rails from the small plant to cost about Rs. 125 at the works, while, making every allowance for overhead charges including a reasonable profit, the cost is not expected to exceed Rs. 180 per ton.

Of course these estimates suffer from their not being based on the actual experience of an existing company, but in so far as they represent the data upon which responsible industrialists are willing to sink money in steel manufacture in India, they are important as providing the upper limit of price beyond which a judicious policy of protection need not aim. Indeed, so far as a 'fair' price for steel is concerned, if we concede the entire demand of the Tata Co., as contained in their letter to the Government of India dated 23rd October, 1922,<sup>18</sup> it would appear that the company at that date would have been satisfied if the price of foreign rails (duty paid) in India did not go below Rs. 160 per ton. Since then there has been very little if any change<sup>19</sup> for the worse in costs of production to the company. Also, at that time when the recommendations of the Indian Fiscal Commission had yet to be accepted by the Government and the Indian Legislature and the prospects of protection being granted to steel, were comparatively remote; it was obviously impolitic for the company to claim an excessive amount of protection which by being too high and costly to the country, might be deemed impracticable

<sup>18</sup> Vide p. 16 (para. 13) of "Representation to the Indian Tariff Board by the Tata Iron & Steel Co

<sup>19</sup> I have ignored the effects of the strike of September 1922 on cost of production, as although it raised the average cost for 1922-23 (by diminishing total production and thus increasing overhead charges per ton) its effects disappeared with the resumption of normal production.

and suggest that the Tata Company was inefficiently managed. Of course less than a year later, in August, 1923, the company still maintained its claims for a 33½ per cent. duty basing it however on the statement that this would enable them to obtain an average price of Rs. 200 per ton during the next five years,<sup>20</sup> at which level they could defy any foreign competition. But such a figure may safely be ignored in an enquiry as to what would be a 'fair' price for the Indian manufacturer, because it represents a maximum desire rather than the minimum that would be necessary to stimulate steel production in India—a minimum for which it might be necessary for the State to contribute out of the taxpayers' or consumers' money.

But, while the prospect of the establishment of new steel works is a strong argument for protection, it would not wholly justify it unless one felt tolerably certain that the industry would after a while be able to do without it. Unfortunately, hitherto the history of protection in every country where it has been applied, in the U. S. A., in Germany, in France, in pre-war Russia, in Canada and in Australia,—shows that once adopted it has always been retained for some reason or other, sometimes even when the 'infants' no longer really needed it. Apart from the ostensible reasons advanced for its retention in various places and at various times, the main reason common in all protectionist countries is the advantage derived by the home producers of the protected article from a higher level of prices than might otherwise obtain. This single all-powerful motive has often succeeded in its objective by a combination of favourable circumstances. It may have found a country ready for high tariffs as the best mode of raising additional revenue urgently required, such as the U. S. A. after the Civil War of 1861-5. Or again, in France and Germany during the last quarter

<sup>20</sup> See pp 7 and 8 of "Oral Evidence before the Tariff Board by Tata's representatives."

of the nineteenth century, it may have found favourable material for its object in the phenomena of falling prices, of national jealousies, and an exaggerated love for the ideal of economic self-sufficiency. Whatever the favourable circumstances, however, in none of the protectionist countries concerned, has protection been favoured by those whose pockets were touched, unless it were protection granted to articles of military necessity. In most countries, it has continued owing to an exaggerated idea of its usefulness and great ignorance of the actual way in which it damages the individual. Thus in America, large sections of working men may be found favouring a high Tariff in the erroneous belief that it means higher real wages to them. And in every country, while there are many who know the particular rate of duty levied on various articles, few take the trouble to realize how much of their aggregate income is taken away through protection, either directly by the State and producers, or indirectly through a diminished volume of employment.

The history of the British general election of 1923 suggests, that in a democratic country where the true meaning of protection is explained and realized by the masses; and where the masses have real power; there will be no difficulty in avoiding its dangers. At first sight, this experience does not seem to be of any value to India with its ignorant and uneducated masses and undemocratic government. Actually however the lesson it teaches is of considerable value. It shows that if the cost of protection is clearly seen by those holding power in India—whether the Indian politician or the British Government as trustees of the masses,—its duration will be strictly limited by the period of its undoubted utility. For the industrial magnates and wage-earners form but a small proportion of those holding power in India, and while their claims to protection will be assured of sympathetic hearing by the present Government and Legislature of India, they will hardly be permitted

permanently to override other and larger interests of the silent masses.

This does not mean that for a limited period, an Indian Legislature will hesitate consciously to incur costs of protection perhaps outweighing its immediate advantages. But such a policy would only be adopted on a reasonable expectation of ultimate counteracting advantages, as from the economic expansion of a promising industry.

Therefore, the unfortunate experience of other countries regarding protection, does not necessarily warrant the conclusion that protection would not be discarded in India when desired. The growth of interests favouring its continuance will of course be inevitable. But with a well-constituted body of experts like the Tariff Board, and plenty of publicity, and by adopting methods which will leave no doubt as to the relative gains and losses of protection and their incidence on various interests; it should not be impossible for India to drop its protective armour whenever it shall have become unnecessary or inexpedient.

The foregoing discussion leads to the conclusion that none of the canons of the Fiscal Commission disqualifies the steel industry from protection, if one inclines to the view that its development in India requires to be accelerated, in view of its being a 'basic' industry. The extent of protection necessary and the best methods by which it may be given have still to be decided.

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## CHAPTER V.

## HIGH PROTECTION VS 'MARGINAL' PROTECTION.

At the outset of the enquiry as to the extent of protection that should be given to the steel industry two rival policies present themselves for consideration. The one, for convenience called here High Protection, would prefer the grant of a substantial measure of help guaranteed for a fairly continuous period, with the object of encouraging the entry of new capital into the field. The supporters of this policy believe it to be the quickest and, in the long run, the cheapest method of ensuring the development of the steel industry and ultimately of other industries in India. The other policy of what might be termed 'Marginal' Protection favours the grant of just that amount of assistance without which, having regard to all the circumstances of production, it would not be possible for the capital already engaged in the industry and any contemplating entry into it, to obtain the minimum return necessary for continuance in the industry.

Assuming temporarily its practicability, high protection will hardly be able to provide its enthusiastic supporters with the many advantages attributed to it. It is true that by erecting a very high tariff wall, foreign imports could be shut out, and domestic prices greatly enhanced. But then, even though two or three other firms attracted by the prospect of large profits, might enter the steel industry, there is always the possibility of combination to restrict supply with a view to maximizing the profits of the producers. The history of monopolies in the U. S. A., in Germany and even Great Britain, shows that the inducements to monopoly are particularly strong in an industry like steel. Nor is this difficult to

understand. The magnitude of the individual firm and its production leaves room for but a few to supply the needs of a country, particularly one like India whose consumption approximates only  $1\frac{1}{4}$  million tons. Thereby agreement becomes easier than if a large number of producers had to be reconciled. Further, the economies achieved by co-ordinated production—in purchase and sale, in overhead charges—compare strongly with the losses incurred otherwise in severe competition by firms all struggling to expand production in order to increase individual profits, but thereby so reducing prices as to leave no profit to the producer. Besides, a combination while easy to achieve might be very difficult to detect, owing to the many secret ways in which it might be effected, and the many plausible reasons that might be assigned for a rise in price. Thus, while the capacity for steel production would probably be accelerated by high protection, it is by no means certain that the actual amounts of steel produced in India would be larger than under a different policy.

Again, even if high protection succeeded in creating in the quickest time, a production equal to the internal demand, it is practically certain that the costs of this will not be the most economical. For it is a commonplace that when prices are sufficiently high to yield large profits, managers are not as careful over their items of expenditure, or as keen to discover and adopt new methods as under stress of keen competition. Improvement in efficiency might therefore be actually hindered, even while production expanded, thus tending to perpetuate the need for protection. The experience of the Tata Company's constantly rising costs,<sup>1</sup> would seem to confirm this. For although much of the rise since 1916-17 is attributable to factors beyond the control of the company including inevitable obsolescence of plant, these reasons hardly explain

<sup>1</sup> The cost of steel rails to the Tata Company is said to have risen from Rs 110 in 1916-17 to Rs 186½ per ton in 1922-23 or, excluding the diminished production due to the strike in Sept.-Oct., 1922, to Rs 175 (vide p. 31, of "Statements and Notes, etc.")

the whole of it. Careful enquiry will probably confirm the suspicion that during the periods of unexampled prosperity, much expenditure was incurred without careful scrutiny and materials and time used more extravagantly than they would otherwise have been. 3448

Besides even if steel production expanded sufficiently quickly and economically under high protection, it would not necessarily hasten industrial development. For such development, supplies of steel have not merely to be available, but available *cheaply*. This point was strongly emphasized in the almost unanimous condemnation of a higher tariff for steel by the members of engineering firms of all descriptions,<sup>2</sup> who gave evidence before the Tariff Board. These gentlemen were united first, in opposing a raising of the tariff to 33½% on steel and, in the event of a higher duty being imposed in spite of their opposition, in demanding increased duties on their products too. Nor can the justice of their demand be denied, or its necessity ignored if a high duty be imposed on the steel. But while this is the case, it is quite certain that in a comparatively poor country like India, expensive steel and steel products would soon curtail the demand and ultimately retard the industrial development of the country. High duties would therefore be inexpedient on this if on no other ground. For there is no alternative method available for giving high protection, since, though it might be possible for the State to find the cost of a small bounty, it is quite impossible for the Indian government with its limited sources of revenue and so many other demands upon it, to give any very large sum of money as a present to the steel industry. Even if the will were there, the capacity would be found wanting.

In addition to these objections to high protection is one directed against its practicability. Much of whatever

<sup>2</sup> These included manufacturers of tinplates, steel castings of numerous kinds, wire and wire nails, tanks, wagons and wagon parts, locomotives, small steamers, enamelware, structural materials of all kinds

advantages might accrue from that policy depends not merely upon a substantial amount of protection, but for its continuance being guaranteed over a sufficiently long period. Practically, it might be possible for the Indian Executive to do so. For the Government of India is not yet responsible to the Legislature. But actually, with the newly established constitutional convention granting fiscal autonomy to India the Viceroy is hardly likely to give such a guarantee against any possible opposition of the Assembly. Considering that the life of any assembly is limited to three years, the most that an amenable Legislature could do would be to promise a given amount of protection for this period as it could not presume to bind its successors' legislative freedom for any length of time. Three years is obviously not long enough for the complete installation and organisation of a new plant in India in full working efficiency. This difficulty in the way of stabilizing a given amount of protection is insuperable, and therefore vitiates the assumption of all those benefits imagined from high protection which assumes such stability.

When further, one realizes India's lack of skilled labour; the long period of time and experience necessary for training a sufficiently large body of such men; their indispensability to any comprehensive industrial progress; it becomes more than doubtful whether a very 'intensive' development of the steel industry would be beneficial to India.

By contrast, the advantages of a policy of 'marginal' protection though less showy, seem more solid. It would first of all, be less costly to the Indian consumer or taxpayer and thereby more practicable. Then it would ensure as far as it is possible under any measure of protection, that the incentives to improved efficiency be not entirely absent. For it would always be open to the protected firms, by improving their efficiency to increase their profits beyond the minimum assured by protection. The knowledge that any improvement in foreign processes or economy in cost of their factors of



production will reduce even this minimum scale of profits, will be a constant spur to economy and efficiency. Thereby the industry will grow, if more slowly at any rate on substantial foundations. It will become more capable of meeting foreign competition when it occurs, and will not wither away at the first blast of its devastating wind, like the numerous mushroom industrial concerns founded in the boom of 1919-20 in the belief that the high prices of that period would continue for ever.

Compared with these advantages of slight cost and steady progress, any possible delay that might occur in the ultimate production by India of all her steel requirements, is of little consequence. A far more important objection to the policy of marginal protection is directed against its practicability. What is to be the minimum rate of return on capital? In what way would such a rate be assured to the industry? Would it involve complete State management of the industry ultimately with its many drawbacks and defects; or merely a limited degree of State supervision?

While these and similar questions indicate that the difficulties in the way of 'marginal protection' are very real, the labours of the Tariff Board have also shown that they are not insuperable. In the course of its investigation, the Board has acquired materials, which enable, if not a perfect, certainly a tolerably accurate judgment to be formed on these points.

As regards the minimum rate of return on capital in the steel industry, this will naturally be different for the different kinds of stock, ordinary, preference and debenture. Recently, it was given out by the newspapers that the underwriters were saddled with the largest portion of a £ 1,000,000, 7½ per cent. debenture loan floated by the Tata Company for their Hydro-Electric Power Station in the Western Ghats. If this be true, it only indicates the inability of this particular portion (quite distinct from the Steel Co.) of the Tata

interests to raise capital cheaply. While it may be admitted that the credit of the Tata name is not as high as it was, the actual rate of yield on debentures which would be sufficient to attract capital into the steel industry when protected, need not be put higher than 7 per cent. Some of the best debentures of jute mill companies in India yield only 6 per cent., while the average yield on all jute debentures of companies actually working does not exceed  $6\frac{1}{2}$  per cent. In the coal and tea industries, the average return is about 7 per cent. which is also the case with the debenture stock of well managed and established cotton mills, even at this period of exceptional depression in the textile trade. Although both Mr. Peterson, and Mr. Tarlton of the United Steel Corporation, think  $7\frac{1}{2}$  per cent. necessary to attract debenture capital, it is doubtful if in this estimate they have made allowance for the privileged position and improved earning power of the industry that would ensue on the grant of protection.

Again in a protected steel industry, there is no reason to doubt, that preference capital can be obtained on an 8 per cent. basis. The last issue of Rs. 7,00,00,000 Preference Stock by the Tata Co. itself was fully subscribed at  $7\frac{1}{2}$  per cent., and though the Tata credit is not as good as it was, there is no reason to doubt that with this rate prevailing for going concerns in other industries in India, the steel industry will find it difficult to get the necessary capital. Even if sufficient capital on this basis was not forthcoming in India, there is little doubt that the money would be put up for cumulative preference stock by English capitalists.<sup>3</sup>

In the same way, it would not be difficult to find ordinary capital for protected steel in India on a 10 per cent.

<sup>3</sup> In oral evidence before the Tariff Board (at which I was present) Mr. Tarlton of Messrs. Bird and Co., Managing Agents of the United Steel Corporation of India, Ltd., indicated that if the steel industry received protection, they were confident of raising a large amount of preference capital in England on this basis.

basis.<sup>4</sup> Of course, it would be advisable for Indian capital to be given the first opportunity of undertaking the risks of manufacture. But if sufficient capital were not forthcoming locally, there is no reason why English capital should not be welcomed. Very likely a large proportion of Indian capital would be forthcoming. For it must be remembered that the yield of 10% which it would be the object of the Tariff Board to assure by its protective measures would be a minimum attainable under conditions of only ordinary trade. This would very frequently be exceeded in the periods of brisk trade and booms, which so often characterize the steel trades all over the world.

Having arrived at the proper rates of return on various kinds of capital, before we can arrive at the amount necessary for the company to earn annually, some agreement as to the amount of capital to be reckoned, must be arrived at. The simplest and most straightforward plan is to take the actual amounts of capital subscribed and reserves accumulated irrespective of any premiums paid at the time.<sup>5</sup> (For although substantial premiums were paid by subscribers to the second issue of ordinary and deferred stock, this was in the expectation that the high profits of boom years would be perpetuated. In common then with other subscribers in excessively high-priced stock during the 'boom' of 1919-20, they might well be called on to bear the loss necessary for writing down the capital to its nominal value. The more so, as the premia went to pay for machinery, etc., which if taken at actual cost at the time of

<sup>4</sup> In oral evidence after first claiming this return, Mr Peterson of Tata's wanted an average assured return of 15 per cent on all original fixed capital put in the industry. In spite of this, 10 per cent would be considered sufficient for the industry (*vide* pp. 81 and 94 in "Oral Evidence, etc.").

<sup>5</sup> Mr Peterson in his evidence put forward the claim that sums expended from the depreciation fund in repairs and renewals should be regarded equally with original capital expenditure as entitled to earn a return. This claim though long argued was ultimately abandoned when its preposterous nature became evident (*vide* p. 94 of "Oral Evidence, etc.").

purchase would appear greatly over-valued in comparison with present-day prices. The company's reserves are too small to be of any account.) On this principle, the capital of the Tata Company which would be required to earn would be 6 crores of debentures, needing an annual service of 42 lakhs,  $7\frac{3}{4}$  crores of preference stock requiring 57 lakhs,<sup>6</sup> about 262 lakhs of ordinary and  $14\frac{1}{2}$  lakhs of deferred shares, on which an approximate return of 28 lakhs would be necessary.<sup>7</sup> In addition, if the detailed figures before the Tariff Board conclusively proved the necessity for it, further provision for interest on borrowed working capital in the shape of cash credits and deposits placed with the company might be made. The maximum limit of such additional working capital should not be allowed to exceed two crores however, and the average rate of interest on it, should barely exceed 6%, in view of all the circumstances.<sup>8</sup>

But the whole of the above provision for interest and profits amounting to 139 lakhs annually will not be a charge

<sup>6</sup> As the existing preference stock of the company was fully subscribed at par on a lower basis than 8% there is no reason why they should expect this return now

<sup>7</sup> By their articles of association, the deferred shareholders of the Tata Iron & Steel Co., occupy a very favoured position. For, after provision for depreciation, and interest on debenture and preference stock, the bulk of the profits, after the ordinary shares get a moderate return, goes to the deferred shareholders, who, in virtue of their small proportion of holding relative to ordinary shareholders, consequently get phenomenal returns on the nominal value of their shares in times of prosperity, while the more numerous ordinary shareholders get a small return. In estimating the necessary profits the company must earn on their capital, justice to the state and consumer of steel precludes the recognition of this arrangement between ordinary and deferred shareholders, and requires that these be treated on a par for dividend purposes

<sup>8</sup> Although the present total issue of debentures is considerably less, we accept the company's statement that these will amount to 6 crores by the time the extensions are in full operation. We cannot however concur with their suggestion that in addition to this and capital subscribed a working capital of 5 crores would be required for the complete plant, as if conceded, the company's capitalization per ton of product would be very much in excess of that for similar plants in other countries. Again Mr Peterson's provision of 7½% for interest charges on cash credits and short term loans for working capital must be contested, as the average rate of interest of the Imperial Bank for the half year ended 31st December, 1923, was only 4½% and has rarely exceeded 5% for the last few years, and it is not unusual for first class firms like Tata's to borrow for short terms at 1% higher than Bank rate.

solely on Tata's steel manufacture. The total capital of the company is utilised in ways some of which are quite independent of the steel manufacture, while of the rest, some must be regarded as benefiting it only partially, while the remainder only is solely devoted to it.

In the first category comes such assets as Government securities and stocks and shares held by the company. Capital invested in this way clearly ought to be excluded from the reckoning of amounts on which earnings have to be provided by the steel manufacture. Although the average yield on Government securities is well below 10%, and some of the companies like the Tinplate Co., Agricultural Implements Co., and Enamelled Ironware Co. (large portions of whose stock are held by the Tata Company) are not likely to be dividend-paying concerns, for some time, considering the future possibilities of the latter and the fact that the Company willingly chose to put aside a portion of their capital in these securities, it is only fair that this portion should be deducted from the ordinary capital of the company, in estimating the amount of earnings chargeable against steel.<sup>a</sup>

Again, as the company sell a large quantity of pig iron, it is only fair that this process of manufacture should be required to contribute a portion towards the necessary earnings. As however by far the largest quantity of pig will in future be turned into steel, it would not be possible to exclude any portion of capital as being not utilised for steel in any way. The fairest method of allocating the amount of return that should be contributed from pig, would be in proportion to the respective quantities and works costs of pig and steel respectively produced and sold per annum. Thus for example if 100,000 tons of pig were sold annually, and the works cost

<sup>a</sup> The 1921-22 balance sheet showed a holding of 42 lakhs in shares excluding Government securities. Adding 37 lakhs held in the three subsidiary companies mentioned above, and allowing for Government securities, about a crore of rupees capable of returning 10 lakhs should be roughly excluded.

were Rs. 40, while the remainder was converted into 400,000 tons of steel at an average works cost of Rs. 120 per ton, then (assuming there were no other processes capable of bringing a pecuniary return) the proportion of total necessary earnings which would be chargeable against pig and steel respectively would be  $100 \times 40 : 400 \times 120$ , i.e., 1 : 12, or  $\frac{1}{13}$  and  $\frac{12}{13}$ .

It is possible that the coal mines owned by the company would be capable of earning a return independently of the necessity of providing the steel works with fuel. At present, however, in view of the paucity of good coking coal, it would be advisable for the Tariff Board to forbid any sales of such coal to outside concerns, as a condition of any protection. Normally such a condition would hardly seem necessary, but should the price of coal again reach the heights attained in 1920 and 1921, it is conceivable that the company would find it more profitable to sell their coal in the open market and even curtail their production of steel (thereby incidentally increasing costs per ton). To avoid this anomaly, it would be better to regard the company's coal properties as an integral part of their steel works (so long as they continued manufacturing steel) and, while the coal used in steel should be charged at cost, the depreciation and the interest on the capital expended on coal would be a charge against steel. Should, at any future time, the coal resources of the country suitable for metallurgical purposes, be found quite ample, then it would be open for the Tariff Board to remove the embargo on the sale of coal to outside concerns, and the coal properties could be required to contribute their proportion towards the total necessary earnings in the same way as pig.

Further, in arriving at the amount of return which must be earned by the steel manufacture alone, the net receipts or profits from the sale of by-products like sulphate of ammonia and coal tar would have to be deducted. Unfortunately, the prices of these by-products vary greatly under present conditions, while their total quantity is not very large. With a

larger annual production of steel, large quantities of coal tar<sup>10</sup> and ammonia will be available, and, provided the chemical industry in India expands *pari passu*, the receipts from by-products would be very substantial indeed.

In a similar way, though at present the land and buildings and markets owned by the company bring in a return unable to meet the necessary provision on capital expenditure calculated on the lowest basis (*i.e.*, the rate earned by debentures 7%) the establishment of new industries and increase of population in and around Jamshedpur likely to ensue from a policy of protection holds out the promise of at least a 10% return on the expenditure incurred on them.<sup>11</sup> Thus the amount of earnings to be chargeable against steel alone in the future should be still further reduced. Finally, it follows as a corollary from the above principles that while the company's statement as to past original capital expenditure needs careful investigation before acceptance, in future all capital expenditure for improvements or extensions should be subject to the scrutiny of the Tariff Board, in order to ensure that the projected plant is desirable in the country's interests, and that it is being procured at the cheapest possible price, due regard being given to quality.

At the present time, however, not much relief is likely to be experienced by steel from earnings through surplus receipts from the sale of by-products, from rents of land and buildings, and other indirect sources of revenue. At most, a rough approximation in the absence of definite information to hand, would put the highest probable revenue from these sources at 4 lakhs annually. This would leave an annual sum

<sup>10</sup> Unfortunately, there is not much demand for these by-products under present conditions in India, and prices are therefore very low. So much so, that I am informed that the company is using coal tar as fuel wherever possible, thereby economising their consumption of coal.

<sup>11</sup> It is a common feature of modern times for large towns to grow up around successful centres of large scale industry, such as the Jamshedpur of the future is certain to become. The resulting enormous increase in the value of sites owned by the company,—who have practically created the town—is an important source of potential profit which must be reckoned in an estimate of all possible sources of revenue to the company.

of approximately 125 lakhs,<sup>12</sup> to be provided by profits from pig and steel to pay interest on borrowed working capital and the agreed minimum return on all subscribed capital including debentures.

Against the principles of protection outlined above, the objection is frequently made that their execution involves too great an interference by the state in the processes of trade. That an enterprise should be required to disclose the details of all its operations,—all its expenditure and receipts together with their sources;—and not only this, but submit even, in some cases, to outside dictation as to what expenditure might be incurred and where—is represented as a disastrous interference with that freedom of trade which is the basis of all healthy industrial development. The supporters of this objection, however, forget that abstract freedom of trade has already been discarded by an industry when it demands protection. It must therefore be prepared as a condition of that protection, to submit to any supervision necessary in the national interest. Nor, as is sometimes argued, would the grant of protection by enhanced import duties, eliminate the necessity of such supervision. For, if the industry is at some date to become self-supporting, as required by the Fiscal Commission, future enquiries as to its condition will have to be made from time to time. In a continuous but not too rigid supervision of protected industries, is the best guarantee of the correctness of the materials that will be forthcoming to form a proper judgment in future enquiries.

Having decided upon the correct principle upon which any grant of protection should be administered, it will be the object of the next chapter, after a cursory survey of the costs of steel production here and in foreign centres, to determine the extent of protection necessary, under a policy of marginal protection.

<sup>12</sup> Even if no allowance were made for earnings from stocks and shares held by the company, and from products, etc., the total amount on account of interest and profits that could be chargeable against pig and steel would not exceed Rs 130 lakhs annually. This would mean an increase of approximately Rs 38 in the average cost per ton of rolled steel as estimated in the next chapter.



## CHAPTER VI.

### THE COMPARATIVE COSTS OF STEEL PRODUCTION.

In Chapter IV, certain figures were mentioned indicating the ideas of a 'fair' price for his product held by the Indian steel manufacturer. It was there shown that estimates of the recently-registered United Steel Corporation of India regarded Rs. 180 per ton as a 'fair' price for its products, when it shall have started manufacture. Again, an extract from the Tata Company's original letter to the Government of India claiming Protection, proved that in October, 1922, the company were evidently satisfied with the hope of obtaining an average price of Rs. 160 per ton for all its steel products. Finally, might be adduced a statement made so recently as December 1923, in which Messrs. Peterson and Tutwiler for the company suggested that if they could get a price of Rs. 173 per ton for all their output no protection would be necessary. These figures, varying as they do, and indicating at best, merely the upper limit of price to which a protective policy might have to be directed, do not obviate the necessity of a more detailed examination of costs of production in India and elsewhere. For a scientific application of the policy of 'marginal protection' outlined in the previous chapter, such an enquiry is essential.

We append therefore a comparative table of costs per ton of rolled steel, submitted by the Tata Iron and Steel Co., to the Tariff Board, for the years 1916-17, 1921-22 and 1922-23 respectively:—

*Cost of Rolling Mill in Rupees per ton of Finished Product.*

Items.	1916-17	1921-22	1922-23
Pig and Scrap ..	29 46	47 60	55 62
Feeding Material	5 79	6 44	4 15
Labour	13 99	17 93	17 00
Stores	6 33	8 20	7 61
Refractories	1 36	3 91	3 20
Ingot Moulds	1 36	1 64	1 37
Relining Fund	7 05	9 83	8 96
Gas Producers	5 51	10 78	13 52
Service Expense	8 20	14 14	16 65
Steam	2 42	5 49	7 86
Rolls	2 31	2 29	2 52
Interest	2 71	12 24	17 02
Depreciation and Bombay charges	23 55	22 70	30 27
Total	110 04	163 19	186 75

In the above statement, we are told, credit has been allowed for scrap at the rate of Rs. 20 per ton, and that for second class rails (presumably stuff not up to standard and therefore rejected and disposed of at low rates in the Bazar) has been distributed over all items

We should further remember one or two facts of general interest relevant to the above statement. In it are summarized the total costs of three distinct processes, that of converting pig into steel ingots, ingots into blooms and billets and blooms into rolled steel. Most of the items under which the costs are distributed occur in each process of manufacture, and a detailed distribution according to process is given for the year 1922-23, on pages 77-79 of the Representation submitted to the Indian Tariff Board by the Tata Iron and Steel Company.

But, unfortunately, the figures for 1922-23 are hardly normal as they reflect the effects of the prolonged strike at the company's works during September and October, 1922-23. A fairer index to present costs is afforded, at any rate for many items, by the figures for 1921-22. And indeed, except for items Pig and Scrap, and those following Relining Fund in the statement, the costs in 1921-22 were higher per ton than in 1922-23.

Coming to the items, *seriatim*, we find that the charge for Pig Iron in the years 1921-22 and 1922-23 shows a very large increase indeed. This has been explained by attributing it to increases in the cost of coal, labour and limestone and also an increase in the percentage of pig used for making steel. This last factor bids fair to be eliminated with the growing adoption of methods of making steel direct from the molten metal in the blast furnaces. The main cause of the increase however is coal, which during the short-lived boom of 1921-22 not only increased in price but seems to have deteriorated in quality also. The main reason for this was the shortage in wagons and lack of sufficient railway facilities between the coal fields and consuming centres. As a result of this, consumers were willing to pay abnormally high prices to those who guaranteed to supply both the coal and the transportation and deliver the goods to time at the factory, while suppliers knowing their advantage did not care to be very particular as to quality. To avoid shortage due to irregular deliveries, the Tata Company were compelled to lay by a large stock and thereby increased handling charges by two breakages of bulk (in stock and out of stock) instead of having the coal come right up to the furnaces by rail from the collieries. In order to build up their stock, they were led to enter into large contracts with suppliers at high rates in 1920 and 1921, while their dependence on the rate established in the contracts of the Railway Board on the advice of the Mining Engineer, has forced them to pay at any rate during 1922-25

an artificial price for coal. Indeed, so artificial is this price that whereas coal prices have been declining since the latter part of 1922, the company's average costs of coal have risen from Rs. 3-5 a ton in 1916-17 to Rs. 8 in 1921-22 and Rs. 8-15 in 1922-23, the latter notwithstanding the fact that nearly 40% of their consumption of coal was provided by the company's own collieries at an average raising cost plus freight of Rs. 7-5 per ton. Omitting for a moment the question whether Rs. 6 is not too high an average raising cost<sup>1</sup> (the railway freight is Rs. 1-5) the fact that by 1925 at any rate, the Railway Board's, and *ipso facto* the company's prices for coal must come down to market level, while an increasing proportion of coal (almost 60%) will come from the company's own collieries, makes an estimate of about Rs. 2 per ton economy in the company's costs of coal in 1925 quite reasonable. Assuming such an economy, one is entitled to expect a reduction in the item of Pig Iron and Scrap even below the figure for 1921-22. For, when asked to explain the difference of about Rs 8 per ton between the figures of 1921-22 and 1922-23, Mr. Tutwiler attributed it to the price of coal which on his own showing did not increase by more than Rs. 1-4 per ton at most in the interval.<sup>2</sup> But it is not only on this statement that we shall base our estimate of a lower charge for pig and scrap.

The cost of labour per ton of pig rose from nearly Rs. 1-10 per ton in 1916-17 to Rs. 2-12 per ton in 1921-22. The company themselves expect a large reduction in these costs with the increases of their total production from blast furnaces to 700,000 tons annually. Indeed, they expect this to go even below the figure for 1916-17 to Rs. 1-4 per ton.<sup>3</sup>

<sup>1</sup> Raising cost excludes depreciation and interest on capital invested in coal mines. As depreciation will be included in the general depreciation fund and profits calculated also on that part of capital invested in coal mines, it is only fair that the cost of coal taken here should be the raising cost as above defined

<sup>2</sup> See pp 51-52 of "Oral Evidence, etc."

<sup>3</sup> *Ide* pp 14 of "Statements and Notes, etc "

As against this, we must allow for the fact that limestone which rose in cost from Rs. 6 to Rs. 6-9 per ton<sup>4</sup> is not likely to afford much room for future economy, owing to the greatly increased demand for it consequent on increased production, and the increasing distances from which it will have to be brought. Even here though, the future is bright. For with increasing railway facilities and regular deliveries of limestone, greater care can be taken in selection of quality and a smaller quantity employed in production with the same results as before.

Besides, there seems to be still further room for economy in the raising cost of Rs. 6 per ton which the company incurs for mining its own coal. Inquiries among coal-owners have elicited the fact that the raising cost, *i. e.*, of paying labour to mine coal and load wagons, together with royalties to the proprietors, range from anything between Rs. 3-4 to Rs. 5-8 per ton for the least efficient collieries. Obviously therefore, there is room for further economy in the company's costs which, in view also of their intention to employ electrical coal-cutting machinery and other up-to-date devices in the near future, should be brought down to at most Rs. 4-8 per ton. Allowing for increase in depreciation charges and interest on capital from the greater employment of machinery, the company should not find it impossible to raise coal at a cost within Rs. 5-4 per ton at most. These estimates allow for the present uneconomic working of labour in the mines—their irregularity, their tendency to work less and turn out less as a result of the increased wages obtained in 1921, and the possibility of trouble due to the introduction of regulations forbidding the working of women underground.<sup>5</sup>

<sup>4</sup> Vide p. 67 of "Oral Evidence, etc."

<sup>5</sup> In evidence before the Tariff Board, Mr. Whitworth, the present Mining Engineer to the Railway Board, said he anticipated trouble from the men who were so accustomed to work with their womenfolk that they would probably refuse to go down the mines altogether, were the latter prohibited (by legislation under discussion) from going down with them.

Altogether then, an allowance of Rs. 40 for Pig and Scrap for the year 1925-26 does not seem unreasonable particularly as this figure,<sup>5\*</sup> unlike the one given in the company's statement above, is not intended to include any charge for interest, depreciation or Bombay Office expenses (*vide* p. 71 of "Oral Evidence. etc.").

The next item, Feeding Material, shows a large reduction from 6.44 to 4.15 rupees per ton of finished steel. This has been attributed partly to an improvement in the quality of dolomite and limestone<sup>6</sup>; and, unless transport is again disorganized, there is no reason why this improvement should not be maintained. Allowing also for the fact that an increased average production per furnace should result under a protective regime, the figure for Feeding Materials can safely be put at Rs. 4.

Perhaps the largest (proportionately) though most uncertain economy in production might be expected, however, under the item Labour. Since 1916-17, the increase in this item has been due to a number of factors such as increased wages, and lower production per man due partly to strikes and trade depression and partly to the need for greater accuracy in manufacture through the narrowing down of the range of specifications demanded since the war.<sup>7</sup> In addition, the company have for the last two years or so been training men additional to the numbers required for their past production with a view to operating the new units of plant. The result, therefore, is that, when the enhanced production from the new plant accrues, there will be very little total addition to labour charges and a considerable fall in the cost per ton. Unless then, unforeseen strikes occur resulting in large further increases

<sup>5\*</sup> I have since learnt that Rs 40 is far too excessive an allowance and that, on the basis reckoned above, a more accurate estimate would be Rs 30. This gives an ample margin on the safe side and ensures that, at any rate, our final estimate cannot be regarded as too unfair to Messrs Tata Iron Steel Co. Ltd.

<sup>6</sup> *Ide* p. 53 and p. 68 of "Oral Evidence. etc."

<sup>7</sup> *Ide* pp. 55-56 of "Oral Evidence, etc.," particularly remarks by Mr. Mather *et seq.*

of pay to the labourer (an improbable contingency after the lesson the strikers received in October, 1922), and in view of the adoption of many labour-saving devices in the new plant and the expectation that the output from rolling mills will be more than doubled, the item for labour in 1925-26 should not exceed Rs. 10.

Stores rose from Rs. 6.33 per ton in 1916-17 to Rs. 8.2 and Rs. 7.61 in 1921-22 and 1922-23. This increase has been due almost entirely to the enormous rise in prices during the war and post-war boom. Already in 1922-23 the effect of falling prices began to be reflected, and the economy would probably have been a little more but for slight increases in the duty on certain tools and lubricants since 1916-17. Since 1922 however prices of stores have fallen. Considering, therefore, that in 1916-17, prices had already risen substantially over pre-war figures, and there seems no reason now why (except for customs duties) prices for stores should not tend back to that level, while the incidence of cost is bound to be less on a larger production, an estimate under stores equivalent to the 1916-17 figure of Rs. 6.33 per ton seems very liberal. Very likely stores in 1925-26 will cost much less.

For Refractories, an estimate of about Rs. 3 per ton seems ample in view of the improved production per furnace expected in 1925-26. The figure would probably be still less, if one were certain of a drop in the price of English pig iron as the price paid by the company varies with the latter.\*

Passing by the item Ingot Moulds, for which we might assume the figures for 1922-23, i.e., Rs. 1.37, we come to *Relining Fund*.

The allocation for this item is based upon the actual cost of furnace repairs in the preceding twelve months. This itself depends upon the price of materials, as well as the tonnage produced. There is no reason for anticipating a still further rise in the price of materials. Indeed, some have already

\* *Rule p 18, "Statements and Notes"*

come down while the quality of materials has improved. Besides, the increase in tonnage expected in 1925-26 is certain to reduce the allocation per ton under this head, so that a provision of approximately Rs. 7 per ton (about the 1916-17 figure) should be ample.

Taking together the two items "Gas Producers and Steam," we find an enormous increase in the aggregate from Rs. 7.93 in 1916-17, to Rs. 16.27 and Rs. 21.38 in 1921-22 and 1922-23. Mainly due to increased price and deteriorated quality of coal, these items should yield substantial economies in the future. The quality of coal has already improved, and there is good ground for expecting a large fall in the price paid by the company in 1925-26. Besides, with the increased use of gas necessitated by the enhanced production, the cost per cubic foot of gas must fall and hence also that per ton of steel. Similar considerations apply to the item "Steam." Unless, therefore, the expectations as to the cost of coal in 1925-26 remain unfulfilled, the charge for these two items in the 1925-26 cost statement should be well within Rs. 9 or 10.

As regards Service Expenses, this item includes such general charges as cost of laboratory, General Manager's establishment, electric lighting and installation in works (all town expenditure on this and other items is excluded) leave pay, and Contingent Fund. The total sum allocated to this head for all processes up to and including the rolling mill, increased from about Rs. 5,60,000 in 1916-17 to Rs. 13,60,000 in 1921-22 and Rs. 13,44,000 in 1922-23. The tonnage rates increased meanwhile from Rs. 8.2 to Rs. 14.14 and Rs. 16.65. While the laboratory and electric lighting expenditure may be expected to increase with the expansion of the works, there is no reason to anticipate any increase in the General Manager's establishment or Contingent Fund. Leave pay, on the other hand, with the growing substitution of Indian for non-Indian supervision, should decrease, or at most show little signs of enhancement. If therefore we allow for an



increase in total allocation to Rs. 16,00,000 ample provision will have been made for the needs under this head of the expanded works. On the other hand, reckoning an output of only 200,000 tons from the rolling mills, the cost per ton should not exceed Rs. 8.

Granting an allowance of Rs. 2.31 (the 1916-17 figure which is slightly larger than that for 1921-22) for Rolls, we now proceed to form an estimate of the fair charge to be made for Depreciation.

Unfortunately, no authentic figure of the exact amount of fixed capital invested in machinery, plant, buildings and services necessary for the operations of the Company, is available. In the balance sheets submitted to the Tariff Board, the Company have increased their liabilities by the inclusion of depreciation fund and premium on deferred shares, thereby showing a similar increase in assets under the head of capital expenditure. Ordinarily, the premium on deferred shares is entitled to be considered as enhancing the assets, but when one remembers the enormous inflation in the actual cost (as compared with the estimates) of the machinery and plant of the 'greater extensions,' due to the fall in exchange in 1920-21, justice requires that the actual cost of these extensions be written down by the extent of the premium at which the second issue of ordinary and deferred shares were issued in that period of inflated prices and expectations of profit. Further, there seems little doubt that the amount of expenditure on repairs and renewals from the depreciation fund should be deducted from the company's estimates of their fixed capital in order to arrive at the real amount of original capital invested in fixtures. It would appear from the evidence that the company valued their fixed capital expenditure on their original plant at 5.82 crores and 10.57 crores on the 'greater extensions' on March 31st, 1922.\* Since then little

\* *File p 81, lines 2 and 3 of "Oral Evidence, etc."*

additional expenditure on the latter account can have been incurred. Accepting these figures as a very rough working basis, and not allowing for deductions therefrom for expenditure on land and town buildings<sup>10</sup> (which by the general enhancement of property values in and around Jamshedpur will appreciate rather than depreciate); purchase price for collieries and ore mines and quarries<sup>11</sup> (which by their long life of 300 years or more would require an infinitesimal proportion of their original cost to be laid aside to cover depreciation) we have, after deducting on account of depreciation fund a sum of Rs. 342 lakhs,<sup>12</sup> a remainder of 12·97 or about 13 crores. On this sum, an allowance for depreciation in proportion to that made by the Income Tax Collector on the block in 1922-23,<sup>13</sup> will come to about 91 lakhs. Assuming then a production of 100,000 tons of pig and 350,000 tons of steel only in 1925-26, the amount of depreciation debited to steel will be about 84½ lakhs or, roughly Rs. 24 per ton.<sup>14</sup>

There remain for consideration only Interest, Profits and Managing Agents' Commission. In the last chapter, an estimate of 125 lakhs was provisionally made on account of Interest and Profits only. If in addition, we take Rs. 10 lakhs to cover Bombay Office expenses, and Managing Agents' Commission,<sup>15</sup> we get Rs. 135 lakhs to be further allocated

<sup>10</sup> On page 41 of "Statements and Notes, etc," an estimate of value of buildings exclusive of land is over Rs 63 lakhs. The Company owns about 24 sqr miles of land

<sup>11</sup> Vide p 43 of "Statements and Notes, etc" for purchase price of some collieries (69½ lakhs) Unfortunately no figures are available for ore mines and quarries.

<sup>12</sup> This figure includes the total depreciation fund on March 31st, 1922 (297 lakhs) plus 45 lakhs made as provision on that account in the costing account of 1922-23

<sup>13</sup> Vide p 61 of "Oral Evidence, etc"

<sup>14</sup> Taking Rs 30 and Rs 95 approximately as the works cost of pig and steel respectively as estimated in this chapter, we get the proportion of depreciation to be distributed between pig and steel to be as 30 × 100 : 95 × 350, i e, as 12 : 133 This gives a debit of something over Rs 84 lakhs against steel which comes to a little over Rs 24 per ton.

<sup>15</sup> This figure is obtained by allowing Rs 20,000 per month or about 2½ lakhs a year for the actual cost of the necessary office in Bombay (incl directors' fees) for the steel company's work, and a commission of 5 per cent on a net profit (after paying depreciation, etc) of not more than 150 lakhs annually

between pig iron and steel before we can arrive at the final cost of the latter. Proceeding as before, we obtain a charge not greatly exceeding Rs. 35 per ton to be made against steel on account of Interest, Profits and Managing Agents' Commission. Of this a little over Rs. 3 is due to interest.

Recapitulating, the following statement indicates our estimate of the fair price at which rolled steel must be sold in the country in 1925-26 to give a reasonable profit :

Item	Per ton charge based on a total of 350,000 tons
	Rs
Pig and Scrap .	40
Feeding Materials .	4
Labour ...	10
Stores .	6.33
Refractories ..	3
Ingot Moulds . ..	1 37
Refining Fund	7
Gas Producers and Steam	10
Service Expenses .	8
Rolls	2 31
Interest . .	3 14
Depreciation	24
Minimum Profits and Managing Agents' Commission ...	32 26
Total	Rs. 151 5

The "fair" price of slightly over Rs. 150 per ton is however based on a number of assumptions, the most important of which are a fall in the company's costs for coal and a trebling of the 1922-23 output, neither of which however are likely to be realized in 1924-25. For that year, therefore, the company's cost of producing steel must be higher. Measures therefore,

that might be appropriate for 1925-26, will have to be supplemented by additional assistance to the company in 1924-25.

The exact extent of the necessary assistance will of course depend greatly on the prices of foreign steel. Curious to say these vary widely according to the source of supply. The three principal countries which between them supply more than  $\frac{3}{4}$  of India's imports of Iron and Steel and Railway Materials are Great Britain, Belgium and Germany in order of importance. Of these by far the largest individual share is provided by Great Britain. According to the "Iron and Coal Trades" Review, the price of English beams and rails c.i.f. Calcutta was as high as Rs. 151/14 on July 20th, 1923.<sup>12</sup> This price may be assumed to be unusually high, however, owing to the absence of competition from the continent at that time due to political reasons. It was recorded in evidence by the Agent of the Great Indian Peninsular Railway that the cost to his company including 10 per cent. duty of their most recent purchase of English rails was Rs. 148-8 which gives a figure of Rs. 135 or £9 per ton c.i.f. Bombay. There is very little difference, if any, in freight charges from Great Britain to Bombay and Calcutta, so that the figure of Rs. 135 per ton may be taken as the lowest<sup>13</sup> under present conditions of manufacture in Great Britain at which English rails can be landed in India without paying duty. That this figure is unlikely to be undercut will appear from the fact that at no time during the worst of the depression in the trade during the whole of 1922 and part of 1923 did the price go below this.<sup>14</sup> To-day the price is appreciably higher, so that by taking a minimum of Rs. 135 for English steel, no injustice will be done to the local industry.

<sup>12</sup> Vide p. 25 of "Statements and Notes, etc."

<sup>13</sup> The Bengal Nagpur Railway claim to have bought a parcel of rails at Rs. 132 per ton in July 1922

<sup>14</sup> Vide p. 64 in "Representation submitted by the Tata Co. to the Tariff Board"

It would appear however that steel rails and joists from Belgium and Germany are imported at a price appreciably lower. From my own experience, in 1921, Belgian joists were obtainable at a price from Rs. 2 to Rs. 3 per cwt. less than British in the Calcutta market. A part of the premium on British stock may be due to the common belief in the superiority of the product. But there can be no doubt that the largest portion of the difference is due to the lower price at which Belgian steel can be imported. Mr. Peterson in his oral evidence before the Tariff Board in August 1923, instanced a parcel of steel joists coming in by the SS. *Marienfels*<sup>19</sup> invoiced at £7-7 per ton c.i.f. Calcutta. Without necessarily accepting this figure as typical (as the shipment occurred when both marks and Belgian francs were rapidly depreciating) it must be admitted that an examination of the average quotations for Belgian beams and bars during 1922 and part of 1923 shows that it does not overdraw the picture. For, the price at which Belgian beams could be imported was as low as £6-7-6<sup>20</sup> c.i.f. Bombay or Calcutta at a time when corresponding British prices were £9-7-6.<sup>21</sup> It is sometimes claimed that as long as Continental exchanges are depreciated, this difference between British and Continental prices of about 60 sh. per ton must always exist. Such a claim however scarcely bears examination. For it must be clear that unless an actual permanent fall is to occur in real wages and prices of raw materials in a country with depreciated exchanges, the cost of these items in the currency of that country must rise and hence increase the price of the commodity *pari passu* with the depreciated exchanges. Of course it is admitted that while the pro-

<sup>19</sup> Vide p. 26 of "Oral Evidence, etc."

<sup>20</sup> Taking the price of 375 francs on p. 65 of "Representation submitted by the Tata Co., etc." during April-June 1922, and converting at £1=70 francs and adding 20 sh. for freight and insurance, we obtain the above approximate figure

<sup>21</sup> Vide p. 64 of "Representation submitted, etc.," and compare the British prices for April-June

cess of depreciation is in active progress, wages and prices of raw materials are likely to lag behind and there may be scope for so-called 'dumping' by taking temporary advantage of a favourable exchange. Unfortunately, this is what has happened ever since the last quarter of 1921 when the German mark first commenced its rapid downward career, dragging in its wake at a slower and more fitful pace the exchanges of Belgium and France. But while it is permitted to hope that the largest portion of the difference between British and Belgium import prices may be eliminated by the stabilizing of Continental exchanges in the near future, we must recognize that causes exist likely to perpetuate a certain difference for some time.

Apart from the fact that the cost of German and Belgian labour per ton is appreciably lower than British (reckoning in uniform currency) due to the prevalence of a lower standard of life in those countries, it is established that the Belgian government have lowered freights on the transport of Lorraine ore to Liege and Charleroi by an amount equivalent to a transportation bounty of 30 francs per ton of pig. Further, with the renewal of reparations deliveries in kind there will be a great incentive to Belgium and France to find overseas markets for these goods by cutting prices. There is also a difference in favour of Antwerp as against British ports of about 5 sh. a ton in overseas freight to India.

These considerations seem to justify the opinion that for a long time at any rate, there is likely to be a difference between the costs of British and Continental steel imported into India of at least £1 or Rs. 15 per ton, while this may be enhanced in periods of depreciating exchanges or by the 'dumping' of reparations deliveries in kind. In this factor, lies India's opportunity, if she is effectively to protect herself against foreign competition, to do so while yet granting a measure of preference to British steel which would go far

in some quarters to remove the belief in the existence of a deep-rooted anti-British bias in the Indian mind.

The exact nature of the policy of protection advocated, will form the subject of the following chapter.

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## CHAPTER VII.

### METHODS AND EXTENT OF PROTECTION.

It will have appeared from the preceding chapters, that the problem of assisting the Indian Steel Industry is complicated through the existence of two different sets of conditions. Any solution applicable to one set of conditions is not likely to be the best for the other.

What may be termed as the more normal conditions, in view of their probable longer life, are not likely to come into existence before the fiscal year 1925-26. In that period, it is reasonable to expect that the production of the Tata Iron and Steel Company will have expanded and the cost of various raw materials especially coal fallen, as well as other minor economies become available to a degree enabling the company to sell its steel at a base price not exceeding Rs. 152 per ton and yet pay a dividend of 10 per cent. on all its ordinary and deferred capital.

But before that condition of things can be reached, it will be necessary for them in the current year and 1924-25 to pass through a period of transition during which the organization of the work of the greater extensions will be completed and production gradually expand, while costs must remain appreciably above Rs. 152 per ton. Presumably then, whatever be the nature of the 'marginal' protection suitable for 1925-26, it will be necessary to supplement this for 1924-25 with something else.

It will be interesting therefore to discuss the methods of protection suitable to Indian conditions with a view to discovering the best for the steel industry. It has been suggested by the Importers Association of Calcutta that the case of the



Tata Company might be met by Government purchase of output at a 'fair' price. While the patronage of the Government should always be extended to the company whenever possible, this in itself will hardly be sufficient to absorb the whole of the Company's increased output. For, the annual requirements of rails by the State Railways was estimated at only 100,000 tons for the next five years. And of this chief item in Government demand, a large part is purchasable by other authorities, *i.e.*, Companies managing certain lines owned principally by the State. These authorities, to judge from Mr. Peterson's complaint to the Tariff Board in his supplementary evidence, are sometimes too eager to place orders in Great Britain to give the Indian manufacturer a fair trial.

Besides the Government railways and ordnance factories, a large part of the consumption of steel is provided by semi-public bodies like port trusts and municipalities while engineering firms, builders, and industries like tea, coal-mining, cotton and jute account for the bulk of the remainder. A substantial measure of assistance, in this connection, will however be afforded, if Government agree to withdraw the concession now enjoyed by stores imported direct by them and by the company-managed railways of entering the country duty-free.<sup>1</sup>

Apart from this, however, not much assistance can be expected from reductions in railway freights. It has already been seen that for the bulk of their railway freight, the Tata Company enjoy a substantial rebate from the Bengal-Nagpur Railway for which they give a sort of *quid pro quo* in the form of cheap rails. On balance, however, the advantage probably lies with the steel company. However this be, in view of the loss at which most Indian railways have been run during the

<sup>1</sup> Since this was first written, all goods imported whether by Government or public bodies like Railways, have been subjected to the legal rates of duty

last three or four years, and the Inchcape Committee's recommendation that they be required to earn a minimum of at least  $5\frac{1}{2}\%$  on capital invested, little assistance can be expected in the form of substantial rate reductions.

As regards merely a state guarantee of minimum interest on the capital subscribed by the Steel Company, this method of assistance, however suitable to a "routine" industry like railways where there is practically no competition and little variation in total costs of production in normal times, is obviously unsuited to a highly technical industry like steel in which competition is keen, demand varying and there is ample room for variations in costs of production.

There remain for consideration the two classic modes of protection recognised by economists—bounties and the method of protective import duties. Between protective import duties and bounties, the choice is difficult. Both methods have advantages and disadvantages, the balance between which is hard to strike. One advantage of import duties is that they will be easy to collect with hardly any extra expenditure by means of the fairly efficient customs service already existing. In a country like India where any form of governmental supervision costs so much relative to the average wealth of its inhabitants, this is no small advantage. But by far the greatest advantage, is the fact that protective import duties for some years to come, may be relied on to increase the somewhat exiguous revenues of the Government of India. The annual deficits since 1918-19\* have imposed upon the country a burden of taxation which in many competent quarters, is regarded as having reached the limit of the people's ability to pay. A clamour was raised to reduce the heavy burden of expenditure and resulted in the Inchcape Retrenchment Committee being appointed. The Committee recommended savings which in their aggregate, would amount to 19½

\* *Vide* Budget Statements, 1922-23 and 1923-24, by the Indian Finance Member

crores.<sup>3</sup> A substantial portion of their recommendations have been adopted by the Government of India and even some expenditure likely to be productive curtailed in the interests of economy.

In such circumstances, a method of protection promising larger revenues instead of increased expenditure as in the case of bounties, is certain to be more popular with the Government of India as well as a large number of Indian politicians. Nor is this popularity of import duties quite unintelligible. For, while its advantages as a method of protection are obvious, it requires a little thought to perceive its defects.

One of these is the difficulty of regulating the exact amount of protection desired. In a scheme of discriminating or scientific protection the object is to give just that amount of protection and no more, that will bring the costs of the foreign product up to the desired level of the indigenous. This involves accurate ascertainment of foreign costs, or what is more important, the c.i.f. selling price of the foreign product at the ports. In the case of such a highly organized trade as Iron and Steel, it is easier to get this information, at any rate in Great Britain and the United States, than in other trades. Periodical trade journals give the market prices at the principal centres in the two countries from time to time. But while these prices no doubt hold good for small transactions at home, they are not to be relied on for large export deals. Indeed, except in specially brisk periods of trade, there is always a lower quotation given for exports, while this quotation itself is cut still further, in the case of actual business during comparatively slack times. This is borne out by the following figures relating to the price of beams or joists on the North East Coast of England.<sup>4</sup>

<sup>3</sup> A crore is Rs 10,000,000 equivalent to about £ 666,666

<sup>4</sup> See page 64 of Representation to the Indian Tariff Board by the Tata Iron and Steel Co., Ltd., Jamshedpur, July, 1923

*Price of Beams in £ per ton.*

1922-23	Home	Export F. O. B.	C. I. F. offers to firms in India	F. O. B. equi- valent of (3)
Month	(1)	(2)	(3)	(4)
	£ s. d.	£ s. d.	£ s. d.	£ s. d.
September	9 0 0	8 10 0	9 1 3	7 18 3
October	9 0 0	8 10 0	9 0 0	7 17 0
Nov & Dec	8 15 0	8 5 0	9 0 0	7 17 0
January	8 17 6	8 12 6	9 5 0	8 2 0
February	9 5 0	9 5 0	9 15 0	8 12 0
March	9 19 0	9 19 0	10 15 0	9 12 0

Assuming however the difficulty of ascertaining foreign selling prices to be a minor one, there is a similar difficulty inherent in protection by import duties due to price fluctuations. If an *ad valorem* duty be levied calculated to bridge a certain difference between existing home costs and foreign selling prices, fluctuations in either of these may render the protection either too little or too much. In times of rising prices, just when the home industry is least in need of artificial help the duty on foreign goods would become greater than necessary, while during depressions the protection afforded would contract just when this was most needed against devices like temporary dumping.

Nor are specific duties entirely free from defect in this respect. For when prices rise, the protection afforded might be too much unless the duty was calculated at a time of high prices in the industry. While when prices fall, a specific duty based on conditions of high prices would be ineffectual against times of great depression.

To a certain extent these difficulties are overcome by the method of levying duties on a tariff valuation. Here, a fixed value is taken for the goods, upon which the given percentage of duty is levied. Generally, this value is fixed with the idea of arriving at an average price for the goods. If the tariff valuation is made every six months (say on the 1st of April and October) and based on the average price prevailing in the year just preceding, then, provided the original rate of duty was fixed at a time of normal trade both in the home and foreign part of the industry, the main object of the intended protection will be achieved. For, during rising prices, when the protection required would be less, the tariff valuation being less than current prices, the actual duty realised would be less than on an *ad valorem* basis. On the other hand, during depressions, the tariff valuation being higher, the actual percentage of protection afforded would be much greater. Thus while not according the exact measure of protection scientifically deemed desirable, tariff valuation duties reckoned in the above manner ensure that the quantity of protection will, during large fluctuations in prices, vary with the need for it. Thus, while on the one hand they are more elastic than specific duties, they eliminate the possibilities of evasion through undervaluation that exist in an *ad valorem* system.

A far greater disadvantage, however, connected with import duties, is that their effects tend to be so widespread. *In a basic industry like steel, any increase in price consequent on higher duties, would affect the costs of other industries using steel as their raw material.* In the evidence before the Indian Tariff Board representatives from firms manufacturing steel castings, railway wagons, structural and bridge building materials, steel wire and wire nails and various other steel products, were united in deploring the effect upon them of a rise in the duty on steel. Almost all of them desired, that if protection must be given, it take the shape

of a bounty. Alternatively they were insistent that they should be protected by import duties on their products sufficient to compensate them for the extra cost of their raw materials.

Nobody would deny the justice of their claim for compensatory duties. The difficulty however, consists in devising these duties. Truly compensatory duties would necessitate a detailed inquiry into the costs of production, and their proportion due to steel, of the innumerable products of which steel forms a raw material. In view of the fact that the proportion of steel in articles vary; that a variety of such articles is produced by a single firm; that the relatively large "overhead" charges in all engineering firms make it difficult to estimate precisely the actual cost of individual articles; it is clear that there can be nothing but a very rough calculation as a basis for compensatory duties. In such calculations, it is usual for commercial firms to keep for themselves a large 'margin of safety.' The inevitable result therefore would be that compensatory duties would be levied on a scale actually higher than required, thus compelling the consumers to endure a greater burden than is necessary.

For awhile, of course, the full effect of an import duty on prices may be obscured by the comparative inelasticity of large sources of foreign supply of steel. In Great Britain and Belgium (not to speak of Germany when she resumes her place in the trade of the world) where steel producers depend to a fair extent on foreign markets for the sale of their products, the raising of the duty on steel may not immediately cause an equivalent rise in price. Rather than lose their Indian market, manufacturers for awhile, especially during trade depression, might prefer to pay a part of the duty themselves. To that extent, the burden on the Indian consumer would be reduced. But the relief could only be temporary. For when they realized the duty had come to stay, foreign manufacturers would naturally contract their supply,

and the result would be reflected in a further rise in the price of the product in India.

Ultimately therefore, the method of import duties would inflict upon the consumer a greater burden than he is actually intended to bear. The divergence between the real and intended burdens would be the smaller, the greater is the care taken in fixing compensatory duties; the smaller is the duty on the 'raw' steel; and the greater the discrimination employed in exempting from duty such steel and its products as cannot be manufactured in India for many years to come. The Tata Iron & Steel Co., have submitted a memorandum indicating the kinds of steel they manufacture already or expect to manufacture in the course of the next year or two.<sup>5</sup> In their oral evidence before the Board they have explicitly declared that they desired no protection and even suggested remittance of existing duty against such things as anchors and cables, and high tensile and carbon steel, and cast steel of various kinds. While, however, it may be a simple matter to distinguish what kinds of steel in an elementary stage should be protected, hardly any of the engineering firms examined by the Board were able to supply a lucid and definite idea of the precise nature of products manufactured by them. Of course a definite and detailed category of articles manufactured in India or capable of being manufactured within a short time, might be obtained after considerable delay. But even then the trustworthiness of such a category as a guide to tariffs would be doubtful. One firm, for example, admitted in evidence that its manufacture of an article like filters varied greatly. They might make five or six in a year or not make one for two or three years.<sup>6</sup> This and a great deal of other evidence indicates that while attempts are being made in India to-day to

<sup>5</sup> Vide pp 5 and 6 of "Statements and Notes received from the Tata Iron & Steel Co" by the Tariff Board

<sup>6</sup> Vide Report of Oral Evidence of the Vulcan Iron Works Co. Ltd, Calcutta in the "Statesman" of 30th September, 1923

manufacture a number of articles, such manufactures have got to pass through the purely experimental stage and prove their adaptability to Indian conditions.

The task of discriminating the kinds of articles that would require compensatory duties and at the same time not leaving other manufactures unassisted that might conceivably be suited to Indian methods of production, is one difficult of satisfactory performance. For, if one shows excessive leniency to incipient manufactures, it is practically certain to cause consumers a greater loss than would be strictly necessary. Some idea of the classes of consumers likely to suffer, and the extent of the increased charges upon them, is given, though not without considerable exaggeration, in a recently published monograph.<sup>7</sup> It may be taken as a fact, however, that any high import duty on steel to-day would cause:

- (1) a greater loss to consumers than that warranted by the measure of protection it is desired to give, and
- (2) a probable net loss to the country as a whole (assuming the policy of compensatory duties is adopted for subsidiary industries) even after estimating any gains from an increase in the indigenous capacity for production.

From these consequences, the giving of a bounty to steel manufacturers would free the country. Nor is a policy of bounty together with a slight increase, say of 5% in import duties, without distinct advantages of its own.

Bounties however, have some obvious disadvantages which suffice to condemn them in the eyes of the superficial thinker. There is first the expense of setting up new machinery for administering them. The cost of expert supervision in India is very high, while in the administering of a bounty on steel, such supervision must necessarily be both highly efficient and honest. Besides, it is hardly to be expected that bountied

<sup>7</sup> Vide "A Factor in India's Progress" by George Pilcher (Longmans)



firms would welcome a very close and constant investigation into the costs and volume of their production. Bounty inspectors would have to be endowed with an ample quantity of tact and firmness if they are not to fail in their duty. Though the cost of engaging suitable men for the task would be undoubtedly high, it should be regarded as an inevitable concomitant of a policy of discriminating protection. Nor would it be without recompense. For, the information gained by the inspectors through a close and constant touch with the industry, would be extremely valuable in forming the future judgments of the Tariff Board regarding it.

A far greater obstacle to bounties is the direct cost of the bounty to the State. Converting the  $23\frac{1}{2}\%$  increase in protection demanded on the basis of Rs. 150 per ton of steel, a member of the Tariff Board estimated the bounty at Rs. 35 per ton on 400,000 tons to cost Rs. 1,40,00,000. Of course the actual bounty given may not be at so high a rate. It was considered however that anything approximating such a charge could not be borne by the strained revenues of the Government of India. This conclusion is not, however, valid against a small bounty.

There are many ways in which the cost of such a bounty might be met. One way would be to realise some of the recommendations of the Inchcape Retrenchment Committee in regard to military and railway expenditure, much more than has been done in the 1923-24 Budget. If, instead of a figure of 62½ crores, the former item is brought down to the level of 57 crores as suggested by Lord Inchcape, there would be an ample reserve for a judicious policy of assistance to indigenous industry. Again, a serious effort might be made to derive a net surplus for the State from the railways, by rigidly curtailing expenditure both on capital and revenue accounts on those lines that cannot show a return of  $5\frac{1}{2}\%$  on the total capital invested.<sup>8</sup> Besides, a careful revision of some rates and fares

in a downward direction, would probably yield a larger net revenue than at present.<sup>9</sup>

But besides reducing expenditure, means might be found by a more careful administration of income taxes. It is notorious that many businesses now escape paying this tax entirely. While in many cases, evasion through false and incomplete declarations, is responsible for a big loss in revenue. The constitution of a separate Central Board of Revenue with distinct administrations for the income-tax and other sources of Revenue is a step in the right direction, which should reduce the loss now suffered by evasion.

Again, an overhauling of the tariff generally might prove a fruitful source of income to the State as well as a welcome relief to certain large classes of consumers. The luxury duty of 30% on so-called luxuries as provisions and oilman's stores might be reduced by half without perhaps any loss to the Revenue; while the export duties on raw jute and tea should be doubled, an export tax be imposed on petrol and a small import duty be reimposed on silver bullion which now comes in free. All these new taxes<sup>10</sup> would bring in large additions to the revenue while none of them would be at all oppressive.<sup>11</sup>

\* *Ide Report of the Retrenchment Committee, 1922-23 (section on Railways, pp. 60-81)*  
Since this was written the revised estimates of 1923-24 and Budget estimates 1924-25 show a net surplus for the State after payment of interest charges, etc., of 427 or 416 lakhs in 1924-25 according as the Indian Legislature does or does not accept the scheme for the separation of the railway budget from the general finances of the country.

\* Although rates and fares since 1913-14 have increased from 30 to 75% the receipts from passenger and goods traffic making allowance for the normal increase in the volume of traffic for the decade, have shown hardly any increase. The fall in prices and incomes during the last three years particularly, suggests that rates and fares are now uneconomically high.

<sup>10</sup> Since this was first written, the Government of India have accepted the resolution in the Council of State suggesting an inquiry into the whole system of taxation, Imperial and Provincial. The composition of the committee of enquiry has not yet been disclosed.

<sup>11</sup> The additional tax on raw jute would roughly amount to 14 annas on a md or about 1 s 9 d. per cwt and would ultimately have to be paid by foreign buyers who at present take not more than  $\frac{1}{4}$  of India's jute crop, the rest being consumed by indigenous mills now on short time of 4 days a week for nearly 3 years. On full time, local mills can

If necessary, therefore, funds could be found for a moderate bounty.

We have seen however, from the preceding discussion, that the difference between the English base price of Rs. 135 per ton c.i.f. and our "fair price" is less than Rs. 17. If the present duty of 10% on iron and steel were raised to 15% against British goods, their base price could not go under Rs. 155 and would thus afford the Indian manufacturer equal terms of competition against them. It would not however be sufficient protection against Belgian or non-Imperial steel. To have this, assuming a uniform tariff valuation for all steel (from whatever source) imported, it would be necessary to increase the duty on steel from outside the Empire to 25%. Further, to prevent foreign steel from passing off as British, Certificates of Origin after the manner required by the Australian Tariff Act will be required, while the possibility of evasion through undervaluation will be avoided through adopting the tariff valuation system, the tariff value being adjusted every six months, on the basis of the British f. o. b. prices for export during the previous twelve months plus an allowance for freight and insurance.

But with all this, it may be said that the immediate problem of helping the Tata Company to pass through its present trials during 1924-25 will still remain to be solved. The fact that the "fair price" of Rs. 151.5 per ton is unattainable during that period constitutes a claim for some sort of additional protection of a temporary nature. Presuming that the company's costs in 1921-25 should not exceed the

absorb  $\frac{1}{2}$  the jute crop in India. On tea, the additional impost would be  $\frac{1}{4}$  per lb. and would not harm India in Great Britain her main market, where she enjoys a preference against China and Java teas. The tax on petrol would come out of the pockets of the monopolistic Burma Oil Company, whose internal price was for long much above its c.i.f. price in foreign markets, and still is somewhat higher than this. A duty of say 1% or 1% on silver bullion would have very little effect on the cost of ornaments to the poor, though it might restrain somewhat the wild speculation and corners indulged in by the Bombay bullion merchants.

figure of Rs. 160—upon which they based their original claim for protection in their letter of the 23rd October, 1922, to the Government of India,—an additional temporary bounty of Rs. 10 per ton might be given for a year provided the total production of finished steel of all descriptions is not below 250,000 tons in the year. With a view to encouraging an expansion in production as soon as possible, small additional bounties increasing by Re. 1 per ton for every increase of 10,000 tons in production up to a maximum of Rs. 15 for 300,000 tons might be granted. Of course the steel would have to satisfy the requirements of quality laid down by the Metallurgical Inspector. This will cost the State not less than Rs. 25,00,000 and possibly Rs. 31,50,000 sums not exceeding its capacity to put forth for a “basic” industry.

In due course, the bounty would be withdrawn. But if it transpired in 1925 that the expectations on which our estimate of a fair price was based, could not be realized; or if exceptional conditions arose materially lowering the c.i.f. price of foreign steel in India, then the bounty might be continued until the conditions, upon which the remaining recommendations depend, are realized.

We are aware that the policy recommended here is likely to be criticized on a number of grounds. There is the class of critic who, arguing from the general unsuitability of Imperial Preference to Indian conditions, would oppose any differentiation in the tariff between imperial and foreign imports. To this class of critic, it is a sufficient answer that no measure of ‘marginal’ protection against British imports would be adequate against foreign. While, if the duty were made uniform at a level sufficient to protect against the latter, the burden would be disproportionately heavy on the Indian consumer, particularly during the first five or eight years of the new regime when there is no possibility of India’s supplying all her needs from her own manufactures.

Apart from this kind of critic, two other classes might possibly be met with. The first would object to our proposals on the ground of their being insufficiently attractive for new firms to enter the steel industry. They would urge that the Indian Iron and Steel Co., and the United Steel Corporation of India indicated their willingness to start manufacture on the assumptions of a  $33\frac{1}{2}$  per cent. duty and a current price in India of about Rs. 180 per ton for steel. Neither of these conditions are fulfilled by the above proposals and hence it is very unlikely that new firms will be found to enter the steel industry.

Without questioning for the moment, whether it is a desirable thing in itself that new firms should enter the industry, no matter what their costs of production, let us see whether it is likely that they will find the conditions created by our proposals unattractive. Firstly, as regards initial costs, they will have substantial advantages over the Tata Co. They will be in a position to install the latest and most up to date plants whose average mechanical efficiency should be greater than that of Tata's hampered as they are by a number of old, open-hearth furnaces. Again, considering the low price of machinery to-day compared with the levels of 1919-20, they should get their plant cheaper, proportionately, than the cost to Tata's of their 'greater extensions.' Further, they will have benefited greatly from some of the experience gained by Tata's, in avoiding unnecessary expenditure of many kinds, and engaging their foreign supervisory labour on less generous terms. In this, unlike Tata's, they will not be hampered by long-term contracts made when the labour market was high. Nor in view of the chronic state of unemployment among large numbers in Great Britain, should it be difficult to recruit a large labour force there and induce them to make India their homes for the rest of their working lives, on reasonable terms which would yet be considerably less than that paid by Tata's. Again, new firms would be

unhampered by many of the unfavourable contracts which Tatas have to fulfil for the supply of very cheap rails,<sup>12</sup> for the supply of steel to subsidiary companies at comparatively low prices ; <sup>13</sup> and for the purchase of coal at unusually high rates.<sup>14</sup>

All these advantages should go a long way towards equalising the disadvantage of not being first in the field. In addition new firms would start their work, under psychological conditions much more favourable than those encountered by Tata. They will have in the fact of the acceptance of a policy of protection, some guarantee that their legitimate causes of complaint will have a favourable hearing. Further, in so far as they are unlikely to bring any products to market before five and possibly eight years, they have every reason to look forward to more normal market conditions—a larger and more stable demand, and a steady, if any, foreign supply at prices free from the kaleidoscopic falls and fluctuations caused by depreciating exchanges and unstable political conditions in Europe.

If in spite of these conditions, new firms do not enter the steel industry, it will be because they are totally wanting in that spirit of enterprize without which no business undertaking can hope for, or deserve success. Their absence then should not be regretted by India. Indeed it should be a matter of congratulation. For had they embarked on the industry, their costs of production would probably have remained so high for so long a period, as to make the burden of protecting them intolerable to the Indian consumer. For the latter, while willing to incur a reasonable sacrifice for an industry likely to establish itself in a comparatively short time such as ten or fifteen years, does not subscribe to the view that

inefficient producers should be assisted to prolong their operations for an interminable period, simply because these are conducted in India.

Indeed, there is a section of opinion which would probably object to the policy recommended by us on the very opposite ground of its according too much protection and being an unjustifiable burden on the consumer. Most of the opposition to protection is from merchants and other middlemen who see in it a reduction of trade for themselves. Some of it is from manufacturers of steel castings, structural materials, bridge work, steel wire and wire products, tinplates, and wagons, practically all of whom have only recently commenced manufacture. The latter fear a rise in the cost of their raw materials, though few among them would be found to protest against a 15% tariff<sup>15</sup> on British steel imports or even one of 25% against foreign, provided they are given compensatory duties. Neglecting the motives of the middleman and manufacturer of steel goods, it may be interesting to have an approximate idea of the way in which consumers may be affected by our proposals.

Let us therefore examine the figures of imports for the calendar year 1923, and see to what extent their opposition is justified. It would appear that in 1923 over 755,000 tons under the customs category Iron and Steel and manufactures thereof valued at Rs. 1,793 lakhs were imported into India while, nearly 10,000 tons of these valued at 11 lakhs were re-exported. The subjoined table indicates clearly the distribution of the total imports and the proportion from the United Kingdom and foreign countries.

<sup>15</sup> Messrs George Service & Co, merchants and manufacturers of Bombay, declared that raising the duty by about 5% or so would make little difference to the volume or profits of their business. This was also the gist of the evidence given by the Bombay Chamber of Commerce.

*Imports under Customs Category of Iron and Steel and Manufactures thereof, during the Calendar year, 1923.*

Class <sup>1*</sup>	Quantity (in tons)	Value (in Rs. 1,000)	Average Value per ton
	Ton	Rs	Rs
I Non-Dutiable	5,500	21.39	359
II Pig Iron	5,000	5.49	110
III. Government Stores	20,000	42.59	213
IV Unallocated	63,000	1,48.58	236
V. U. K. Imports	367,000	10,31.64	281
VI Other Countries	295,000	5,47.90	184
TOTAL	735,500	17,97.59	238

Assuming the 'unallocated' imports to be distributed proportionately between the U. K., and other countries, the amount of foreign imports into India of iron and steel and manufactures thereof does not exceed 325,000 tons valued at approximately 600 lakhs of rupees. On an *ad valorem* basis, the extra burden of 15% (from 10% to 25%) on this sum would amount to about Rs. 90 lakhs. This would however be greater if the duties were levied on tariff valuations based on prices in the U.K., as advocated by us.

<sup>1\*</sup> Of the six classes given here, the first contains articles like anchors and cables, spring steel, high speed, carbon and high tensile steel which cannot be manufactured in India and may be made free of duty on account of the small revenue they now bring. It is possible that expert scrutiny of the other articles imported under the main Customs Category would discover some more belonging rightly to the first class. "Pig Iron" is also given as a separate class as the existing duty no longer required for protection might well be abolished. "Government Stores" come almost entirely from the U. K., and as such would only be liable to 15% though until the 1924-25 Budget was introduced they were free of duty. The fourth class contains articles whose origin as between the U. K. and other countries is not distinguished in the Accounts of India's Foreign Sea Borne Trade for the Calendar year 1923 from which these figures are obtained.



The maximum possible increase in the burden on this basis would not however exceed Rs. 169 lakhs.<sup>17</sup> On British imports (including Government Stores) the extra burden, if the price is raised by the full extent of the additional 5% duty, would be  $58\frac{1}{2}$  lakhs.<sup>18</sup>

These figures however do not include the following articles of iron and steel classified under the heading Railway Plant, which would also have to pay a substantial duty of 15% as over 99% comes from the U.K. These are:—Bridge work (14,000 tons, 35 lakhs); Rails, Chairs and Fish-Plates (67,000 tons, 92 lakhs); Iron and Steel Sleepers and Keys (13,000 tons, 21 lakhs); Government Stores (6,200 tons, 11 lakhs or a total of about 100,000 tons valued at 160 lakhs. The additional charge on these items would amount to 8 lakhs.

It does not follow, however, that the raising of the import duties on iron and steel to 15% and 25% respectively on British and non-British imports, would inflict upon the consumer an annual burden of about 235 lakhs in respect of the products already dealt with, to say nothing of any other minor tariff adjustments that may be necessitated for goods under other categories especially those of (1) Machinery and (2) Cutlery, Hardware, Instruments, etc. Particularly regarding the non-British section of the trade, it is well known in trade circles that the uncertainties of delivery and price make regular and steady competition among individuals in

<sup>17</sup> This figure is arrived at in the following way. Assuming for rough calculation that the present rates of duty on the various articles included in the category Iron and Steel and Manufactures thereof works out at 10% ad valorem (this is not very wide of the truth considering the total duty realised from all kinds of Iron and Steel and Manufactures thereof, net imports of which for 1923 were valued at 1787 lakhs, amounted to Rs 172.56 lakhs) this is equivalent to Rs 18.4 per ton on the average value of all foreign imports in 1923. Now if the duty is raised to 25% tariff valuation based on British prices, it may be regarded equivalent to  $\frac{1}{4}$  of the average price of U.K. imports, i.e.,  $\frac{1}{4}$  of 211 or Rs. 70 per ton. The difference of nearly Rs 52 per ton will be the additional burden, and this on 325,000 tons amounts to Rs 169 lakhs.

<sup>18</sup> Subtracting from the total value of 1,798 lakhs, 600 lakhs for foreign imports and about 27 lakhs for the value of Pig iron and non-Dutiable articles, we have a remainder of about 1,170 lakhs, on which an additional burden of 5% comes to  $58\frac{1}{2}$  lakhs.

this section difficult with the result that the middleman's profit is unusually high, while frequently a long chain of middlemen intervene between the importer and ultimate consumer. In these circumstances, the first as well as some of the ultimate effects of raising the duty to 25%, will be to reduce some links in the chain of middlemen and lower their profits. Only a portion of the enhanced duty is likely to be thrown on the consumer, whose burden will therefore be considerably less than the estimated maximum of 169 lakhs, for non-British imports.

Altogether, perhaps, the additional burden on the consumers of British as well as foreign imports of iron and steel and railway plant (including rolling stock) would hardly exceed 175 lakhs, so long as the present scale of imports was maintained. This burden would be offset by the receipt of an equivalent or larger amount of customs revenue by the Central Government, so that provided this revenue is wisely spent, the net result is simply a transference of wealth from certain classes to others in the country itself. The consumers of steel include the general public as represented by the Central and provincial governments and municipalities, semi-public authorities like Port Trusts and tramway companies which combine the supply of public utilities at a reasonable cost with a commercial organization designed for the profit of shareholders; and a host of purely commercial bodies and private individuals like landlords and builders. All these classes except perhaps the first are well able to bear the additional burden; and what the first have to endure in extra cost of railway plant and irrigation works, they amply recover in the form of additional customs revenue. So far then, as imports are rendered more expensive, the additional imposition hardly reduces the economic welfare of the country.

Of course, in addition, consumers will have to bear the burden of the higher prices which the Tata Co. may be enabled to charge for their products owing to the increased

duty. The extent of this burden, will be much less than the extra burden incurred on the present volume of imports which when shared by middlemen and consumers was estimated at 235 lakhs. Assuming it to be in proportion to the relative quantities imported and manufactured in India and, taking an indigenous output as large as 400,000 tons (a figure not likely to be attained before 1926) the additional burden on the consumer on account of local manufactures would be about 112 lakhs.<sup>19</sup> Against this must be set the economic gain to the country from Tata's expansion estimated at one crore at least, in the shape of increased wages, taxes, railway earnings.<sup>20</sup> If in addition is reckoned the increased profits to the shareholders, and the indirect advantage to the country from the increase of skill and productive power among a number of its inhabitants, there can be very little doubt as to the balance of advantage to the country, from the policy recommended here.

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<sup>19</sup> The total volume of net imports of Iron and Steel and railway plant (excluding rolling stock) affected by the increased duty after deducting for re exports, pig iron, and non dutiable is 835,000 tons. The additional cost of local manufactures to the consumer, calculated on the basis mentioned in the text is therefore given by the following fraction

$$\frac{235 \times 400}{835} \text{ lakhs}$$

<sup>20</sup> Vide paras. 9-12, pp. 13-15, of "Representation submitted to the Tariff Board by the Tata Iron and Steel Co."

## CHAPTER VIII.

### SUPPLEMENTARY MEASURES.

The adoption of the policy indicated in the previous chapter, involves as a corollary the modification of the existing tariff in certain directions.

Firstly, great care will be necessary in order to distinguish between those articles of iron and steel which are now being manufactured in India, and those which will not be manufactured for some time. The fact that a certain company or firm is projected or even registered should not be taken as proof of the manufacture of its intended products in India. Still more, the merely experimental or occasional manufacture of an article, such as filters or metal shelving should not be regarded as proof of the establishment of that manufacture in India.

Applying these criteria, a fair number of articles under the customs categories, (1) Iron and Steel and Manufactures thereof, and (2) Railway Plant and Rolling Stock, and practically all articles under (3) Cutlery, Hardware, etc., and (4) Machinery will fall into the group that cannot be manufactured in India. In so far as any of these articles may be indispensable in other Indian industries—such as most kinds of textile machinery, all kinds of electrical machinery and various other articles like vacuum brakes and springs for railway carriages and wagons—the present duties should be remitted or only retained at such a low level—like the  $2\frac{1}{2}\%$  revenue duty on Machinery—that it does not seriously affect the dependent industries. Where the articles are for direct consumption in their existing form by the ultimate consumer,

the present duties may be either retained or reduced or remitted according as considerations of revenue dictate.

Secondly, in regard to articles like pig iron the manufacture of which on an economic scale is firmly established in India, it would be advisable to remit entirely the existing duty, for while the protection afforded by it is not required, the revenue yielded is insignificant.

Thirdly, the acceptance of the method of tariff valuation and the assumption of a 'base' price of Rs. 135 per ton for steel, will necessitate the modification of the present tariff values of some articles and the substitution of others for articles like beams, girders, and building materials, bolts and nuts, pipes, tubes, fittings and the like that are now imported on an *ad valorem* basis. Perhaps the best method of estimating the tariff values for each article, is to make them the same proportion to 135 less freight and insurance from Great Britain which the cost of each article in Great Britain bears to the 'base' price of steel there, and then to add the appropriate amount for freight and insurance (per ton) on the article concerned. This method should not fail, considering that in almost every single article included under the main head 'Iron & Steel and Manufactures thereof,' there is some import from Great Britain. Besides, it has the advantage, of choosing as the regulator of India's tariff values, a country whose internal prices are least likely to diverge from world prices under normal conditions, and thereby, of keeping continually before the Indian industry the level of prices at which it should aim if it is ever to do without protection.

Again, granting the revision of the tariff for the protection of the 'raw' steel industry in India, there will arise the problem of protection to subsidiary or dependent industries that may find the cost of their raw material increased by the tariff. The Tariff Board took the evidence of a number of such industries including those connected with wagon building, tinplates, steel castings, steel wire and wire products,

agricultural implements, enamelled ironware, and structural and fabricated steel especially those necessary for buildings, workshops, dock works, bridges and irrigation works.

(a) The evidence of the Engineering Association made it clear that its members did not desire any protection for themselves, but would be content if the duty on fabricated steel were raised to the same level as that on steel. Considering that the bulk of competition in their manufactures is from the United Kingdom, application of the same rates of duty to fabricated as to 'raw' steel imports would amply satisfy them, particularly as the Government, which can consume over 50% of their output, has now accepted the policy of calling for tenders from Indian manufacturers for all goods produced in India, before placing their orders elsewhere. This was a point upon which the members of the Association were keener than on any compensatory duty, as they rightly anticipated a substantial lowering of their costs of production if they could keep their works fairly occupied throughout the year. The only difficulty likely to be experienced in satisfying the members of the Engineering Industry is in the proper adjustment of the tariff on some of the articles coming in under the general customs head "Machinery" on which only  $2\frac{1}{2}\%$  is now levied, while parts of such machinery made of iron or steel were imported at 10%, thus hampering manufacture in India.<sup>1</sup> Unfortunately the Association were not quite definite as to what articles of "Machinery" they manufactured and what was the extent of the rise in their cost of production through steel being rendered dearer by the tariff, existing or proposed.

Thinking however, of a possible  $33\frac{1}{3}\%$  duty on steel, the Association claimed a revision of the tariff on Machinery. Considering that the cost of iron and steel is only a part of the cost of machinery and that the adoption of the proposed

<sup>1</sup> The winding engine was given as an instance of this anomaly in the present tariff

preferential tariff of 15% and 25% respectively will only result in increasing the cost of this part from 5 to 15%, a small increase in duty on those articles of Machinery only which are actually being produced in India in fair quantities should meet their case. Probably a 5% duty would be found ample for such articles as colliery and jute machinery of the kind available or likely to be available in India in the near future.

(b) The manufacture of enamelled ironware, and agricultural implements in India has peculiar features of its own. Two subsidiary companies in which Messrs. Tata & Sons are interested, are about to engage in these lines and they have contracts for their steel supply which would leave the price unaffected by a duty at any rate for some time. Considering that there are only one or two other firms interested in enamelling ironware, it would be unwise to raise the duty on these beyond the existing 15%. The better way might be to grant the firms the concession they desire of a rebate on raw material imported by them provided (1) these are only used for their manufactures and (2) they are not available in India as cheaply. Agricultural implements should be allowed to come in free as at present. Any claims for protection might be deferred for future investigation based on the actual experience and costs of the Agricultural Implements Co., and the financial position of the Indian agriculturist.

(c) In regard to the production of steel wire and wire nails the Indian Steel Wire Products Ltd. (another company associated with Tata's though the latter hold no shares therein), demanded a small measure of protection (even on the existing tariff) for 10 years only. The chief source of imports for their wares, steel wire and wire nails, was from Germany and Belgium who together with other countries provided about 90% of the total of almost 18,000 tons of these articles imported in the Calendar year 1923, the remainder coming from Great Britain. Considering the character of these products, the application of the general rates of 15% on British and 25%

on foreign imports should not cause undue hardship to the consumer while affording ample protection to the local industry.

(d) Another 'infant' industry is the steel casting industry. Apart from castings for their own use made by some of the railway workshops, in the country, there are very few private firms manufacturing these. The principal trouble with these seemed not to be high tariffs on their raw materials as backward organisation for purchase and sale. One firm, the Kirtyanand Steel Co. Ltd., was purchasing scrap at Rs. 90 per ton when other firms were getting scrap (probably slightly inferior in quality) at Rs. 40. Further, they had still to get their wares known in the market, and until this occurred and orders came in, obviously overhead charges would remain high. Some of their difficulties were due to exceptionally low-priced articles like colliery wheels and tubs being imported from the continent. Considering this, the industry would not have cause for complaint if the general rates of 15% and 25% were applied to those castings manufactured in quantities sufficiently large to satisfy the Tariff Board of their importance to the industry of the country.

(e) As regards the wagon industry in the country, measures of a probably more complex kind will be necessary. The chief nay the sole consumer is the railways, both State and Company managed, whose combined demand is estimated at 6,000 wagons annually. Practically the whole of this has hitherto been imported from Great Britain for obvious reasons, *i.e.*, cheapness and reliability of quality. In India, however, works exist capable of producing about 3,000 wagons annually. The only difficulty is that Indian prices are considerably higher. A variety of reasons has been advanced for this. On the one hand, it is alleged, that British manufactures (at any rate in 1922) cut prices to unremunerative levels merely to prevent their works from closing down. On the other hand, cost of production in India was high for a



number of reasons. Labour was more expensive and less efficient than before the war; the Government restriction that Indian wagon manufacturers should use Indian raw materials as far as possible, very often prevented manufacturers getting their material in the cheapest markets; British manufacturers also had the nasty habit of raising the price of those indispensable parts, like vacuum brakes and springs, which could not be manufactured in India; while finally, the absence of orders in the past three or four years had caused overhead charges to go up to abnormal heights. The remedy for this state of affairs was guaranteed State purchases, and compensatory protection in the event of the tariff on steel and steel castings being raised. The adoption of the latter suggestion would cause the tariff on railway plant and rolling stock to be raised to 15% and 25% respectively on British and foreign imports (or, considering hardly anything under these categories comes from anywhere except the U. K., to a substantive rate of 15%). This would cause no injury to the Indian taxpayer, since he in the capacity of the State, owns over 90% of the capital invested in the railways, and the extra burden on the railways would be entirely recouped and more, were there no change in imports after the enhanced duty. For while the state would get back the extra charge on their portion of new capital in the shape of duty, the 10% of foreign owners of railway stock would be mulcted of the duty on capital invested by them, while any failure of the railways to earn sufficient for their interest charges will only reduce the surplus profits which, under the present arrangement, accrue in part to these foreign owners. Actually, however, the raising of the duty on rolling stock in so far as it decreases imports and increases wagon purchases in India will transfer some resources from the taxpayer to the wagon manufacturer, but this would be justified if it succeeded in establishing the wagon industry firmly. A step towards this is being made by the manufacture of an increasing number of parts in India, and

with improvement in labour and the firm establishment of the steel and steel-casting industry, this consummation should not be impossible. Only, it would hardly be worth while to try to achieve it by guaranteeing the purchase of a number of wagons in India annually, as desired by the wagon companies. The better way would be (1) to make all imports of rolling stock, including those by Government, liable to duty<sup>2</sup> (at 15% and 25% respectively), (2) for Government to ask for tenders in India and to compare Indian with British prices c.i.f. plus duty and landing charges giving the order to the cheaper supplier, unless special reasons were given showing that the cost of any particular part had been raised higher than that at which it was available for British consumers, together with the necessary transport and other charges.

This procedure would prevent the possibility (not so remote as some people imagine) of the taxpayer being severely mulcted by any combination of the two or three wagon manufacturing firms now in India, such as might ensue if it were known that, in any case, a certain number of wagons had to be purchased in India every year. It would also prevent the possibility of stagnation, and, while affording some help to a struggling industry, give it the necessary fillip towards efficiency which the wagon industry seems to need in India.

(f) We now come to the last of the subsidiary industries,—the tinplate industry. Represented by a single firm, the Tinplate Co. Ltd., of Golmuri, this was the first subsidiary industry to give evidence before the Tariff Board, and the most preposterous in its demands. With a capital of Rs. 75 lakhs, subscribed by the Burmah Oil Company and the Tata Iron and Steel Company in  $\frac{2}{3}$  and  $\frac{1}{3}$  shares respectively its representative had the audacity to claim a 15% duty on tinplates irrespective of that imposed on steel. A few facts will show the preposterous nature of the claim. While the import

<sup>2</sup> Since this was written the Government of India have accepted the principle of subjecting all imports whether on Government or private account to existing rates of duty

of tinned plates into India during 1923 was 46,000 tons (the triennial average before the Tinsplate Company started operation was approximately 56,000 tons), the full capacity of the company could not go beyond 28,000 to 30,000 tons. This might be reached by March, 1925, while at present not more than  $\frac{2}{3}$  the plant was in operation. By agreement, the Burmah Oil Company, one of the parents, take  $\frac{3}{4}$  of the output for their containers for kerosene oil, so that only a quarter or about 7,000 tons would at best be available for other consumers whose demand would not be less than 20,000 or 25,000 tons. A high duty on tinplates would thus give a magnificent opportunity to this company, owned by two practical monopolists to raise prices and make large profits for their shareholders. Nor is this likely to be the only result of such a duty. Alleging the high price of tinplates as an excuse the Burmah Oil Company might very likely (this transpired in oral evidence in answer to a question by Mr. Ginwala) raise the price of kerosene, the bulk of which is consumed by the poorest classes in India. The net effect of the duty claimed would therefore be a large transfer of wealth from the poorest classes to the least deserving of business firms (monopolists, who have made large profits, one in the past, while the other is still making them).

Nor does there seem to be the slightest justification in enhanced cost of raw material or other reasons, for the suggested duty. It is true that such materials as sulphur, palm oil, tin and pinkmeal have to pay 15 per cent. but the tinplate company have an agreement with Tata's for the supply of their steel sheet bars at prices whose basis is independent of any duty in India (*i.e.*, f.o.b. Swansea), while the net effect of the agreement is to make it Tata's interest that the price of tinplates in India (duty paid) should be as high as possible<sup>3</sup>

<sup>3</sup> The Tata Company get or pay half the difference between the price at which foreign tinplates might be available in India (duty paid) in any particular year, and the cost of production of the Tinsplate Co (vide pp 20-21 of "Statements and Notes, etc.")

This curious kind of agreement while it explains, hardly justifies the company's claim for 45 per cent. duty. The utmost that might properly be done for it, is to give it the benefit of the general proposed tariff for steel, *i.e.*, 15 per cent. and 25 per cent. on British and foreign imports, and leave the two monopolists to settle questions of profit-sharing among themselves. In practice, considering that over 40,000 tons of tinplates came from Great Britain in 1923, the substantive duty on this article would be only 15 per cent. or an increase of only 5 per cent.

It remains only to attempt an estimate of the relative advantages and disadvantages of the supplementary measures outlined above. The recommendations in regard to agricultural implements, steel wire and wire nails, structural materials, steel castings and tinplates, involve no additional cost to that already discussed in the previous chapter as all except the first of these articles (which remains duty free) are articles included in the category of Iron and Steel and Manufactures thereof, already dealt with.

Unfortunately, no definite particulars are available to estimate the additional burden on the country from an increase of duty of those articles of machinery manufactured in India. For such an estimate one must know (1) the exact descriptions of these articles, (2) the proposed enhancement in the duty on them, (3) the present volume of imports of these and their value, (4) the number of such articles manufactured in India and their price, (5) the probable variations in (1), (3) and (4) as a result of (2). In the absence of this knowledge one can only hope that any enhanced duty on articles of Machinery will be cautiously levied and carefully administered, and will lead in due course to the development of the manufacture of machinery in India.

The case of the wagon building industry is different. Our proposals would entail the raising of the present duty of 10 per cent. to 15 per cent. and 25 per cent. on United Kingdom

and foreign imports respectively. In so far as this does not affect the volume of imports, there is a slight balance of gain to the taxpayer from such a measure, as the additional capital cost he has to incur as the owner of 90 per cent. of India's railway property is balanced by the additional customs revenues he derives, including as this does the increased duty on the capital invested in railways by parties other than the State. It may be however—indeed it is to be hoped—that the enhanced duty will lead to larger orders placed in India. To the extent that this occurs, it means an additional burden of  $\frac{1}{23}$  of the previous cost<sup>4</sup> of a wagon on the taxpayer. If we assume that the maximum present Indian capacity of 3,000 wagons per annum is utilised thereby, the extra cost to the taxpayer (assuming, as stated in the evidence of the Indian Standard Wagon Co., before the Tariff Board, that a British A1 type wagon costs approximately Rs. 3,500 duty paid in India) will not exceed 5 lakhs.<sup>5</sup> This sum would go to swell the pockets of the wagon builders it is true, but in addition there must be reckoned on the credit side, the increased wages, interest and taxes accruing from the maintenance of the wagon industry which might otherwise die from a lack of orders. Thus viewed, the expense of protecting the wagon industry can hardly be thought excessive.

Indeed, a review of our main as well as subsidiary proposals, creates the conviction, that it is perhaps the best possible effort to perform the difficult and thankless task of according such protection to the Indian Steel and subsidiary industries, as will be sufficient to assist their gradual and steady growth and yet not inflict an intolerable burden upon India.

<sup>4</sup> As hardly a single wagon is ever imported from any other country than Great Britain the effect of the enhanced duty, will be to increase the cost of a wagon from say 110 to 115 or by  $\frac{1}{11}$  of the previous cost 110.

<sup>5</sup> The extra cost to the taxpayer from the purchase of 3,000 wagons in India as the result of raising the duty from 10 per cent. to 15 per cent. would be,  $3,000 \times \frac{1}{23}$  or about 4½ lakhs.

## BIBLIOGRAPHY.

### (1) *Blue Books and Pamphlets.*

- (a) Report of the Indian Industrial Commission, 1916-18.
- (b) Report of the Indian Fiscal Commission.
- (c) Report of the Indian Retrenchment Committee.
- (d) Budget Statements of Government of India 1922-23, 1923-24 and 1924-25.
- (e) Accounts of Sea-Borne Trade of British India for December 1923 (including figures for the Calendar year 1923).
- (f) Representation to the Indian Tariff Board submitted by the Tata Iron and Steel Co.
- (g) Statements and Notes, submitted by the Tata Iron and Steel Co.
- (h) Oral Evidence of representatives of Tata Iron and Steel Co., given at Jamshedpur in August, 1923.
- (i) "A factor in India's Progress," By George Pilcher (Longman).
- (j) "Protection to the Indian Steel Industry." By K. T. Shah (published under the auspices of the Indian Fiscal Reform League, Bombay).

### (2) *Tariff history.*

- (a) Ashley : Modern Tariff History.
- (b) Chomley : Protection in Canada and Australia.
- (c) Dawson : Protection in Germany.
- (d) Low : Protection in the United States.
- (e) Pigou : Protective and Preferential Import duties.

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- (b) Report of the Indian Fiscal Commission.
- (c) Report of the Indian Retrenchment Committee.
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- (e) Accounts of Sea-Borne Trade of British India for December 1923 (including figures for the Calendar year 1923).
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- (b) Chomley: Protection in Canada and Australia.
- (c) Dawson: Protection in Germany.
- (d) Low: Protection in the United States.
- (e) Pigou: Protective and Preferential Import duties.

(3) *Protection, Free trade and allied topics.*

- (a) Tausigg : Free Trade, Tariff. Reciprocity.
  - (b) List : National System of Political Economy.
  - (c) Dietzel : Retaliatory Duties.
  - (d) Bolen : Plain Facts as to the Trusts and Tariffs.
  - (e) Pierce : Tariff and the Trusts.
  - (f) Macrosty ; Trust Movement in British Industry.
  - (g) MacGregor : Industrial Combination.
  - (h) Shah : Trade, Tariffs and Transport in India.
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